

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: HELEN PEZZUTO Examiner #: 70058 Date: 9/10/03  
 Art Unit: 1713 Phone Number 301-2393 Serial Number: 101070-318  
 Mail Box and Bldg/Room Location: CP3-8B16 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: SEE ATTACHED

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Polymer of (I) further containing unit (II) in cl 8 and (III) in cl 13

\* The preferred (I) is poly(methacryloylsuccinimide) derived from methacryloxysuccinimide such as monomer (IV) in cl 15 by means of process in cl. 16, 17 (i.e. ATRP) & 19<sup>2</sup> (nitroxide-mediated) processes in claim 22 & 31 is analogous to that in claim 15.

\* Concentrate on polymer (I), (VII).

\* PLEASE ATTACH REPORT TO PAGES SUBMITTED HEREIN.  
 MANY THANKS!

## STAFF USE ONLY

Searcher: K. Faller

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 9/11/03

Date Completed: 9/11/03

Searcher Prep & Review Time: 30

Clerical Prep Time: \_\_\_\_\_

Online Time: 76

PTO-1590 (8-01)

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) 10

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN ✓

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

subset



# **STIC Search Report**

**EIC 1700**

**STIC Database Tracking Number: 103581**

**TO: Helen Pezzuto  
Location: CP3 8B16  
Art Unit : 1713  
September 11, 2003**

**Case Serial Number: 10/070318**

**From: Kathleen Fuller  
Location: EIC 1700  
CP3/4 3D62  
Phone: 308-4290**

**Kathleen.Fuller@uspto.gov**

## **Search Notes**



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
308-4290, CP3/4-3D62

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC1700 CP3/4 3D62



=> FILE REG

FILE 'REGISTRY' ENTERED AT 10:59:03 ON 11 SEP 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 9 SEP 2003 HIGHEST RN 582289-61-0  
DICTIONARY FILE UPDATES: 9 SEP 2003 HIGHEST RN 582289-61-0

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STN Note 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 10:59:07 ON 11 SEP 2003  
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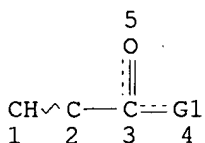
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FILE COVERS 1907 - 11 Sep 2003 VOL 139 ISS 11  
FILE LAST UPDATED: 10 Sep 2003 (20030910/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> D QUE

L3 STR /



VAR G1=X/O

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

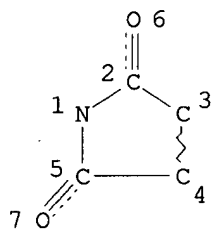
## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

## STEREO ATTRIBUTES: NONE

L4 STR 2



*6,511 polymers from  
structures 1 and 2*

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 7

## STEREO ATTRIBUTES: NONE

L6 SCR 2043

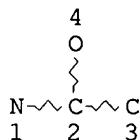
L8 6511 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L6

L9 3655 SEA FILE=HCAPLUS ABB=ON L8

L10 2168 SEA FILE=HCAPLUS ABB=ON L9(L) (PREP OR IMF OR SPN)/RL

L11 16 SEA FILE=HCAPLUS ABB=ON L10(L) RADICAL? (L) POLYMERI?

L12 STR



*← Subset search*

*660 polymers*

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 4

## STEREO ATTRIBUTES: NONE

L14 660 SEA FILE=REGISTRY SUB=L8 SSS FUL L12

L15 560 SEA FILE=HCAPLUS ABB=ON L14

L17 351 SEA FILE=HCAPLUS ABB=ON L15(L) (PREP OR IMF OR SPN)/RL

L18 25 SEA FILE=HCAPLUS ABB=ON L17 AND RADICAL? (5A) POLYMERI?

L21 1 SEA FILE=REGISTRY ABB=ON 78-96-6

L22 1 SEA FILE=REGISTRY ABB=ON 141-43-5

L23 1 SEA FILE=REGISTRY ABB=ON 616-34-2

L24 1 SEA FILE=REGISTRY ABB=ON 37047-90-8  
L25 1 SEA FILE=REGISTRY ABB=ON 74815-54-6  
L26 5 SEA FILE=REGISTRY ABB=ON (L21 OR L22 OR L23 OR L24 OR L25)  
L27 4 SEA FILE=REGISTRY ABB=ON L26 NOT 1/NR  
L28 855 SEA FILE=HCAPLUS ABB=ON L27/DP  
L32 16 SEA FILE=HCAPLUS ABB=ON L10 AND L28  
L33 3 SEA FILE=HCAPLUS ABB=ON L32 AND RADICAL? (5A) POLYMERI?  
L34 42 SEA FILE=HCAPLUS ABB=ON L11 OR L18 OR L33  
L35 1 SEA FILE=REGISTRY ABB=ON 920-46-7  
L36 1 SEA FILE=REGISTRY ABB=ON 6066-82-6  
L37 3330 SEA FILE=HCAPLUS ABB=ON L35  
L38 3388 SEA FILE=HCAPLUS ABB=ON L36  
L39 2861 SEA FILE=HCAPLUS ABB=ON L37(L) (RACT OR RCT)/RL  
L40 2900 SEA FILE=HCAPLUS ABB=ON L38(L) (RACT OR RCT)/RL  
L41 25 SEA FILE=HCAPLUS ABB=ON L39 AND L40  
L43 4 SEA FILE=HCAPLUS ABB=ON L41 AND RADICAL? (5A) POLYMERI?  
L44 43 SEA FILE=HCAPLUS ABB=ON L34 OR L43

=> D L44 1-43 ALL HITSTR

L44 ANSWER 1 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:507699 HCAPLUS

DN 139:69944

TI Alkaline-soluble maleimide-containing polymers for resists

IN Chen, Cindy X.; Hurditch, Rodney

PA Microchem Corp., USA

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08G069-08

NCL 528310000; 528322000

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6586560	B1	20030701	US 2001-954888	20010918
PRAI	US 2001-954888		20010918		

AB An alk. sol. maleimide tetrapolymer is prepd. by the free **radical** **polymn.** of the monomers maleimide, N-alkyl maleimide, Me (meth)acrylate and either (meth)acrylic acid or (meth)acrylamide. The polymer contains 5 to 20 mol% maleimide, 50 to 70 mol% N-alkyl maleimide, 15 to 30 mol% Me (meth)acrylate, and 3 to 12 mol% (meth)acrylic acid or 4 to 15 mol% (meth)acrylamide. The total nitrogen content of the maleimide tetrapolymer is at least about 7.5%. A polymer was prepd. by polymn. of a mixt. of N-ethylmaleimide, maleimide, methacrylic acid, and Me methacrylate using AIBN.

ST alk soluble maleimide polymer resist

IT Antireflective films

Microelectronic devices

Positive photoresists

(alk.-sol. maleimide-contg. polymers for resists)

IT Polymer blends

RL: TEM (Technical or engineered material use); USES (Uses)

(alk.-sol. maleimide-contg. polymers for resists)

IT Resists

(imaging; alk.-sol. maleimide-contg. polymers for resists)

IT Resists  
(non-imageable; alk.-sol. maleimide-contg. polymers for resists)

IT Ceramics  
(substrate; alk.-sol. maleimide-contg. polymers for resists)

IT Glass, miscellaneous  
RL: MSC (Miscellaneous)  
(substrate; alk.-sol. maleimide-contg. polymers for resists)

IT 524942-66-3P, N-Ethylmaleimide-maleimide-methacrylic acid-methyl methacrylate copolymer **524942-67-4P**, N-Ethylmaleimide-maleimide-methacrylamide-methyl methacrylate copolymer **550346-79-7P**, Acrylamide-N-ethylmaleimide-maleimide-methyl methacrylate copolymer 550346-80-0P, Maleimide-methacrylic acid-N-methylmaleimide-methyl methacrylate copolymer  
RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(alk.-sol. maleimide-contg. polymers for resists)

IT 1303-00-0, Gallium arsenide, miscellaneous 7440-21-3, Silicon, miscellaneous 11148-21-3 14808-60-7, Quartz, miscellaneous 22398-80-7, Indium phosphide, miscellaneous  
RL: MSC (Miscellaneous)  
(substrate; alk.-sol. maleimide-contg. polymers for resists)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Adams; US 6410209 B1 2002 HCAPLUS
- (2) Anon; EP 0341843 1989 HCAPLUS
- (3) Anon; EP 794458 A2 1997 HCAPLUS
- (4) Choi; US 6416927 B1 2002 HCAPLUS
- (5) de Witt, G; US 2146209 A 1939 HCAPLUS
- (6) Galvin-Donoghue; US 5756266 A 1998 HCAPLUS
- (7) Hopf; US 4857435 A 1989 HCAPLUS
- (8) Hopf; US 5059513 A 1991 HCAPLUS
- (9) Kang; US 6280903 B1 2001 HCAPLUS
- (10) Kopchik; US 4246374 A 1981 HCAPLUS
- (11) Okinaka; US 5155190 A 1992 HCAPLUS
- (12) Padmanaban; US 6365322 B1 2002 HCAPLUS
- (13) Patel; US 6352811 B1 2002 HCAPLUS
- (14) Sandford; US 4636532 A 1987 HCAPLUS
- (15) Sasaki; US 4689243 A 1987 HCAPLUS
- (16) Schroder; US 3284425 A 1966
- (17) Shen; US 5319043 A 1994 HCAPLUS
- (18) Tam; US 4814258 A 1989 HCAPLUS
- (19) Varshney; US 5264527 A 1993 HCAPLUS
- (20) Wilson; US 4048146 A 1977 HCAPLUS

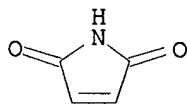
IT **524942-67-4P**, N-Ethylmaleimide-maleimide-methacrylamide-methyl methacrylate copolymer **550346-79-7P**, Acrylamide-N-ethylmaleimide-maleimide-methyl methacrylate copolymer  
RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)  
(alk.-sol. maleimide-contg. polymers for resists)

RN 524942-67-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1-ethyl-1H-pyrrole-2,5-dione, 2-methyl-2-propenamide and 1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

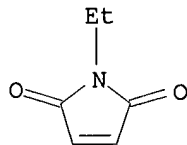
CM 1

CRN 541-59-3  
CMF C4 H3 N O2



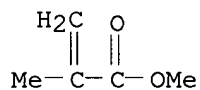
CM 2

CRN 128-53-0  
CMF C6 H7 N O2



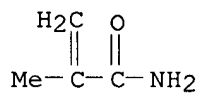
CM 3

CRN 80-62-6  
CMF C5 H8 O2



CM 4

CRN 79-39-0  
CMF C4 H7 N O

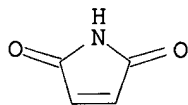


RN 550346-79-7 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
1-ethyl-1H-pyrrole-2,5-dione, 2-propenamide and 1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 541-59-3  
CMF C4 H3 N O2

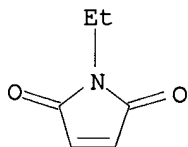




CM 2

CRN 128-53-0

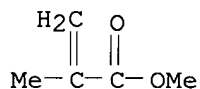
CMF C6 H7 N O2



CM 3

CRN 80-62-6

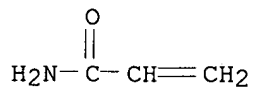
CMF C5 H8 O2



CM 4

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 2 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:491129 HCAPLUS

DN 139:54353

TI Photosensitive composition and photosensitive planographic printing plate

IN Ishizuka, Yasuhiro; Kojima, Yasuhiko; Asawa, Yasuhiro

PA Kodak Polychrome Graphics Company Ltd., USA

SO PCT Int. Appl., 70 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM B41C001-10

ICS B41M005-36; G03F007-021; G03F007-023; G03F007-032; G03F007-033;  
G03F007-035

CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003051631	A1	20030626	WO 2002-US39410	20021210
	W: BR, CN				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
	JP 2003186188	A2	20030703	JP 2001-380582	20011213
PRAI	JP 2001-380582	A	20011213		
AB	A photosensitive compn. that can give a coating film having excellent solvent resistance and excellent wear resistance, and provide a photosensitive planog. printing plate having excellent solvent resistance, particularly resistance to a UV ink-washing oil used in UV ink printing, and excellent press-life is disclosed. The photosensitive compn. contains a resin having a barbituric acid group in the side chain. A photosensitive planog. printing plate comprising a support and a photosensitive layer comprising the photosensitive compn. on the surface of the support is also disclosed.				
ST	photosensitive compn planog printing plate ink				
IT	Polyurethanes, uses				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acrylic; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Coating materials				
	(light-sensitive; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Phenolic resins, uses				
	RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (novolak; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Printing plates				
	(planog.; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Vinyl compounds, uses				
	RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (polymers; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Polyesters, uses				
	Polyureas				
	Polyurethanes, uses				
	RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	Polymerization catalysts				
	(radical; prodn. of photosensitive compn. and photosensitive planog. printing plate)				
IT	69432-40-2				
	RL: MOA (Modifier or additive use); USES (Uses) (coating contg.; prodn. of photosensitive compn. and photosensitive planog. printing plate)				

- IT 84206-95-1, 4-Diazodiphenylamine-formaldehyde condensate  
hexafluorophosphate 548475-85-0, m-Cresol-p-cresol-formaldehyde-oxalic  
acid-phenol copolymer  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
engineered material use); USES (Uses)  
(coating contg.; prodn. of photosensitive compn. and photosensitive  
planog. printing plate)
- IT 68510-93-0, 2,3,4-Trihydroxybenzophenone ester with 1,2-  
naphthoquinonediazide-5-sulfonic acid  
RL: POF (Polymer in formulation); TEM (Technical or engineered material  
use); USES (Uses)  
(coating contg.; prodn. of photosensitive compn. and photosensitive  
planog. printing plate)
- IT 36195-33-2P, 4-(Methacryloyloxy)benzaldehyde 41704-79-4P,  
4-(Acryloyloxy)benzaldehyde  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate; prodn. of photosensitive compn. for photosensitive  
planog. printing plate)
- IT 548475-74-7P 548475-75-8P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(monomer; prodn. of photosensitive compn. and photosensitive planog.  
printing plate)
- IT 7429-90-5, Aluminum, miscellaneous  
RL: MSC (Miscellaneous)  
(planog. printing plate; prodn. of photosensitive compn. and  
photosensitive planog. printing plate)
- IT 548475-76-9P 548475-77-0P 548475-78-1P 548475-79-2P  
548475-80-5P 548475-81-6P 548475-82-7P 548475-83-8P  
548475-84-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
PRP (Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(prodn. of photosensitive compn. and photosensitive planog. printing  
plate)
- IT 78-67-1, AIBN  
RL: CAT (Catalyst use); USES (Uses)  
(radical polymn. catalysts; prodn. of  
photosensitive compn. and photosensitive planog. printing plate)
- IT 67-52-7, Barbituric acid 123-08-0, 4-Hydroxybenzaldehyde 814-68-6,  
Acryloyl chloride 920-46-7, Methacryloyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting materials; prodn. of photosensitive compn. for photosensitive  
planog. printing plate)
- RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Anon; PATENT ABSTRACTS OF JAPAN 1984, V008(033), PP-254  
(2) Anon; PATENT ABSTRACTS OF JAPAN 2001, V2000(14)  
(3) Dainippon Ink & Chemicals; EP 0737896 A 1996 HCAPLUS  
(4) Eichhorn, M; US 5700621 A 1997 HCAPLUS  
(5) Fuji Photo Film Co Ltd; JP 2000330265 A 2000 HCAPLUS  
(6) Lap-Tak, C; US 5272218 A 1993 HCAPLUS  
(7) Nippon Gosei Gomu Kk; JP 58189627 A 1983 HCAPLUS
- IT 548475-76-9P 548475-78-1P 548475-84-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation);  
PRP (Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)

(prodn. of photosensitive compn. and photosensitive planog. printing plate)

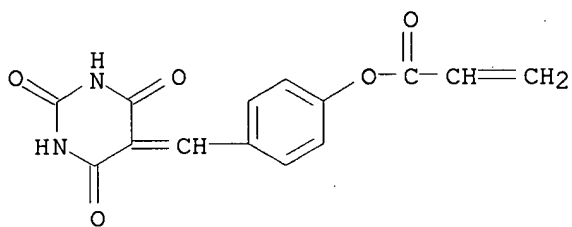
RN 548475-76-9 HCAPLUS

CN 2-Propenoic acid, 4-[(tetrahydro-2,4,6-trioxo-5(2H)-pyrimidinylidene)methyl]phenyl ester, polymer with 2-methyl-2-propenamide, 1-phenyl-1H-pyrrole-2,5-dione and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 548475-74-7

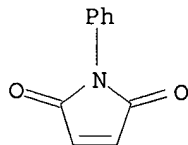
CMF C14 H10 N2 O5



CM 2

CRN 941-69-5

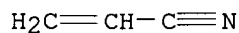
CMF C10 H7 N O2



CM 3

CRN 107-13-1

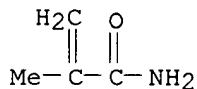
CMF C3 H3 N



CM 4

CRN 79-39-0

CMF C4 H7 N O



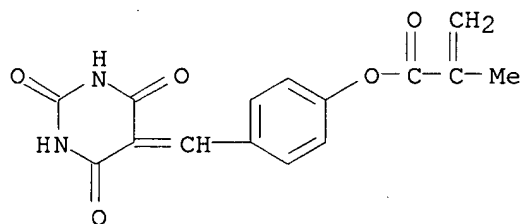
RN 548475-78-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-[(tetrahydro-2,4,6-trioxo-5(2H)-pyrimidinylidene)methyl]phenyl ester, polymer with 2-methyl-2-propenamide, 1-phenyl-1H-pyrrole-2,5-dione and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 548475-75-8

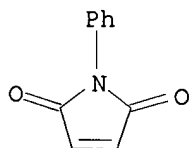
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CM 2

CRN 941-69-5

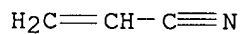
CMF C10 H7 N O2



CM 3

CRN 107-13-1

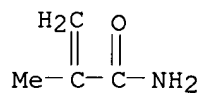
CMF C3 H3 N



CM 4

CRN 79-39-0

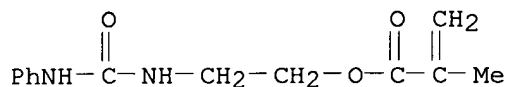
CMF C4 H7 N O



RN 548475-84-9 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, 2-[[ (phenylamino)carbonyl]amino]ethyl ester, polymer with 2-methyl-2-propenamide, 1-phenyl-1H-pyrrole-2,5-dione and 2-propenenitrile (9CI) (CA INDEX NAME)

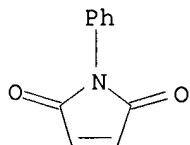
CM 1

CRN 86219-42-3  
 CMF C13 H16 N2 O3



CM 2

CRN 941-69-5  
 CMF C10 H7 N O2



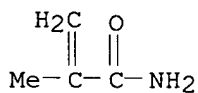
CM 3

CRN 107-13-1  
 CMF C3 H3 N



CM 4

CRN 79-39-0  
 CMF C4 H7 N O



L44 ANSWER 3 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 2003:485213 HCAPLUS  
 TI Synthesis and Characterization of Photoresponsive N-Isopropylacrylamide Cotelomers  
 AU Desponds, Arnaud; Freitag, Ruth

- CS Center of Biotechnology, Swiss Federal Institute of Technology Lausanne,  
Faculty of Basic Sciences, Ecublens, 1015, Switz.
- SO Langmuir (2003), 19(15), 6261-6270  
CODEN: LANGD5; ISSN: 0743-7463
- PB American Chemical Society
- DT Journal
- LA English
- CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36
- AB Free **radical** chain transfer **polymn.** of  
N-isopropylacrylamide (NIPAM) and three different succinimide-bearing  
comonomers was used to synthesize semi-telechelic co-telomers  
characterized by a statistical distribution of the comonomers, low  
polydispersity, and controlled molar mass. Upon temp. increase, aq.  
solns. of the co-telomers underwent a reversible phase transition (pptn.)  
once the crit. soln. temp. was surpassed. The crit. soln. temp. of the  
co-telomers showed characteristic differences to the one obsd. for PNIPAM  
homopolymers. A polymer analogous route exploiting the  
N-hydroxysuccinimide groups of the co-telomers was then used to introduce  
light-responsive azobenzene groups into the mols. By irradiation (305 nm),  
the azo group is switched from the more hydrophobic trans to the more  
hydrophilic cis state. The half-life of the cis state in the dark was  
approx. 13 h. The influence of the temp., the pH, and irradiation on the  
temp.-induced phase transition was studied by turbidimetry, UV-vis  
spectroscopy, and microcalorimetry. The obsd. shifts of the crit. soln.  
temp. were detd. not only by the hydrophobic/hydrophilic balance and the  
chem. microstructure of the co-telomers but also by their conformation in  
soln. Whereas most co-telomers showed the expected increase of the crit.  
soln. temp. upon irradiation, at least one co-telomer was found with a lowered  
crit. soln. temp. in the irradiated state.
- ST prepn characterization photoresponsive azo contg isopropylacrylamide  
copolymer
- IT INDEXING IN PROGRESS
- IT Polymer chains  
(conformation; synthesis and characterization of photoresponsive  
N-isopropylacrylamide co-telomers)
- IT Critical solution temperature  
(lower; synthesis and characterization of photoresponsive  
N-isopropylacrylamide co-telomers)
- IT **Polymerization**  
Reactivity ratio in **polymerization**  
(**radical**; synthesis and characterization of photoresponsive  
N-isopropylacrylamide co-telomers)
- IT Chain transfer agents  
Phase transition  
Phase transition enthalpy  
(synthesis and characterization of photoresponsive N-  
isopropylacrylamide co-telomers)
- IT 2935-90-2, Methyl 3-mercaptopropionate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chain transfer agent; synthesis and characterization of  
photoresponsive N-isopropylacrylamide co-telomers)
- IT 2210-25-5, N-Isopropylacrylamide 38862-24-7  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(monomer; synthesis and characterization of photoresponsive  
N-isopropylacrylamide co-telomers)
- IT 1689-82-3, 4-Phenylazophenol 18370-81-5, 3-Aminopropyl bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)

- (prepn. of chromophore; synthesis and characterization of photoresponsive N-isopropylacrylamide co-telomers)
- IT 112-38-9, 10-Undecenoic acid 6066-82-6, N-Hydroxysuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of monomer; synthesis and characterization of photoresponsive N-isopropylacrylamide co-telomers)
- IT 71137-65-0P, N-Acryloxysuccinimide-N-isopropylacrylamide copolymer  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; **PREP (Preparation)**; RACT (Reactant or reagent)  
(synthesis and characterization of photoresponsive N-isopropylacrylamide co-telomers)
- IT 71137-65-0DP, N-Acryloxysuccinimide-N-isopropylacrylamide copolymer, reaction products with (3-Aminopropoxy)azobenzene, hydrolyzed 145963-98-0DP, reaction products with N-isopropylacrylamide co-telomers  
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**  
(synthesis and characterization of photoresponsive N-isopropylacrylamide co-telomers)
- IT 145963-98-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis and characterization of photoresponsive N-isopropylacrylamide co-telomers)

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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IT INDEXING IN PROGRESS

IT **71137-65-0P**, N-Acryloxysuccinimide-N-isopropylacrylamide copolymer  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; **PREP (Preparation)**; RACT (Reactant or reagent)  
(synthesis and characterization of photoresponsive N-  
isopropylacrylamide co-telomers)

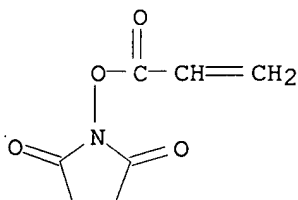
RN 71137-65-0 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, polymer with 1-[(1-oxo-2-propenyl)oxy]-  
2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

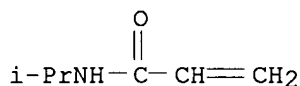
CMF C7 H7 N O4



CM 2

CRN 2210-25-5

CMF C6 H11 N O



IT **71137-65-0DP**, N-Acryloxysuccinimide-N-isopropylacrylamide  
copolymer, reaction products with (3-Aminopropoxy)azobenzene, hydrolyzed  
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP**

**(Preparation)**

(synthesis and characterization of photoresponsive N-  
isopropylacrylamide co-telomers)

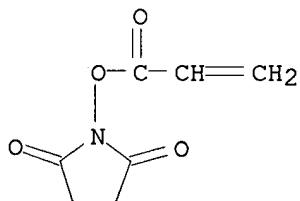
RN 71137-65-0 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, polymer with 1-[(1-oxo-2-propenyl)oxy]-  
2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

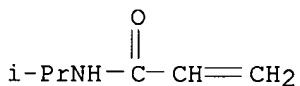
CMF C7 H7 N O4



CM 2

CRN 2210-25-5

CMF C6 H11 N O



L44 ANSWER 4 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:245051 HCAPLUS

DN 138:402223

TI One-Pot Synthesis of Star Polymers by Living Radical Polymerization

AU Ishizu, Koji; Park, Jaebum; Shibuya, Takeshi; Sogabe, Atsushi

CS Department of Organic Materials and Macromolecules International Research  
Center of Macromolecular Science, Tokyo Institute of Technology, Tokyo,  
152-8552, Japan

SO Macromolecules (2003), 36(8), 2990-2993

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

AB A versatile, one-pot approach to highly branched star polymers based on DC-mediated living free radical procedures is presented. To demonstrate a novel approach to functionalized star polymers, the living free radical copolymn. of a 100:2:2 equiv mixt. of MMA, (N,N-diethyldithiocarbamyl)methylstyrene (DTCS), and 4,4'-bismaleimidediphenylmethane (BMIM) was studied in benzene under UV irradiation. We performed the kinetic anal. to understand the mechanism of propagation. We have also carried out the characterization and made clear the branching nature of such star polymers in detail.

ST prepn bismaleimidediphenylmethane diethyldithiocarbamyl methylstyrene MMA star copolymer

IT Polymer chains  
(branching; one-pot synthesis of 4,4'-bismaleimidediphenylmethane-(N,N-diethyldithiocarbamyl)methylstyrene-MMA star copolymers by living radical polymn.)

IT Polymerization  
(photochem., radical; one-pot synthesis of 4,4'-bismaleimidediphenylmethane-(N,N-diethyldithiocarbamyl)methylstyrene-MMA star copolymers by living radical polymn.)

IT **528886-43-3P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(star; one-pot synthesis of 4,4'-bismaleimidediphenylmethane-(N,N-diethyldithiocarbamyl)methylstyrene-MMA star copolymers by living radical polymn.)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT **528886-43-3P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP**

**(Preparation)**

(star; one-pot synthesis of 4,4'-bismaleimidediphenylmethane-(N,N-diethylthiocarbamyl)methylstyrene-MMA star copolymers by living radical polymn.)

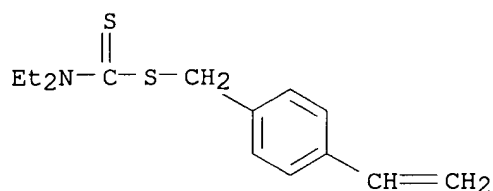
RN 528886-43-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with (4-ethenylphenyl)methyl diethylcarbamoedithioate and 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 99798-43-3

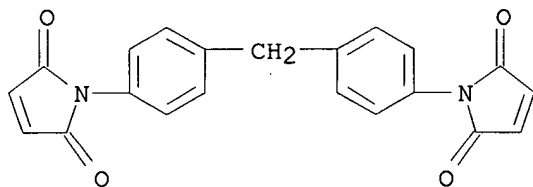
CMF C14 H19 N S2



CM 2

CRN 13676-54-5

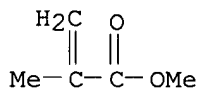
CMF C21 H14 N2 O4



CM 3

CRN 80-62-6

CMF C5 H8 O2



L44 ANSWER 5 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:210994 HCAPLUS

DN 139:7139

TI Synthesis of functionalized polymer brushes, part II: Active ester brushes

AU Murata, Hironobu; Ruhe, Jurgen

- CS IMTEK - Institute for Microsystem Technology, University of Freiburg, Freiburg, D-79110, Germany
- SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 558-559  
CODEN: ACPPAY; ISSN: 0032-3934
- PB American Chemical Society, Division of Polymer Chemistry
- DT Journal; (computer optical disk)
- LA English
- CC 34-2 (Amino Acids, Peptides, and Proteins)
- AB N-methacryloyl-.beta.-alanine Nn-oxysuccinimide ester was polymd. in the presence of 4,4'-azobis(4-cyanopentanoic acid 3'-(chlorodimethylsilyl)propyl ester) attached to Si oxide, and the polymers reacted with amino compds. to prep. brushes with functional groups. The layer thickness of the polymer brushes was a function of the monomer concn.
- ST methacryloylalanine oxysuccinimide ester polymer brush; immobilization azobiscyanopentanoic acid chlorodimethylsilylpropyl ester
- IT IR spectroscopy  
(Fourier-transform; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Crown ethers  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(amino, reaction products with polymer brushes; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT **Polymerization** catalysts  
(**radical**; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Amines, preparation  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(reaction products with poly(methacryloylalanine oxysuccinimide ester); synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Chelating agents  
Dyes  
(reaction products with polymer brushes; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Surface plasmon  
(spectroscopy; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Spectroscopy  
(surface plasmon; synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT Aminolysis  
Catalyst supports  
(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT 7631-86-9, Silicon oxide, uses 206117-38-6  
RL: CAT (Catalyst use); USES (Uses)  
(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT **60748-94-9P**  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; **PREP (Preparation)**; RACT (Reactant or reagent)  
(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)
- IT 3416-24-8DP, D-Glucosamine, reaction products with

poly(methacryloylalanine oxysuccinimide ester) 3786-54-7DP,  
1-Aminomethylpyrene, reaction products with poly(methacryloylalanine  
oxysuccinimide ester) 10065-72-2DP, L-Alanine methyl ester, reaction  
products with poly(methacryloylalanine oxysuccinimide ester)  
**60748-94-9DP**, reaction products with amines 80506-64-5DP,  
Polyethylene glycol 2-aminoethyl methyl ether, reaction products with  
poly(methacryloylalanine oxysuccinimide ester) 83585-56-2DP,  
2-Aminomethyl-15-crown-5, reaction products with poly(methacryloylalanine  
oxysuccinimide ester)

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(synthesis of functionalized polymer brushes from methacryloylalanine  
oxysuccinimide ester and aminolysis)

IT 107-95-9, .beta.-Alanine **920-46-7**, Methacryloyl chloride  
**6066-82-6**, N-Hydroxysuccinimide 59178-90-4, N-Methacryloyl-  
 .beta.-alanine

RL: RCT (Reactant); RACT (Reactant or reagent)

Key (Reactant), Key (Reactant or Reagent),  
(synthesis of functionalized polymer brushes from methacryloylalanine  
oxysuccinimide ester and aminolysis)

IT 59178-95-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 60748-94-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation)  
; PREP (Preparation); RACT (Reactant or reagent)

(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)

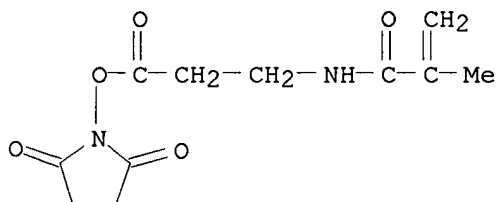
RN 60748-94-9 HCAPLUS

CN 2-Propenamamide, N-[3-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59178-95-9

CMF C11 H14 N2 O5



IT **60748-94-9DP**, reaction products with amines

RL: PRP (Properties); **SPN (Synthetic preparation); PREP**

**(Preparation)**

(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)

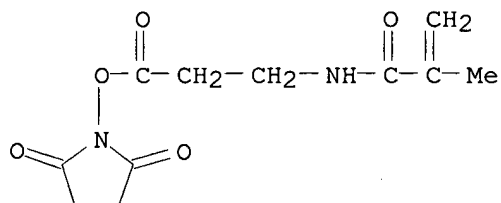
RN 60748-94-9 HCAPLUS

CN 2-Propenamide, N-[3-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 59178-95-9

CMF C11 H14 N2 O5



IT **920-46-7**, Methacryloyl chloride **6066-82-6**,

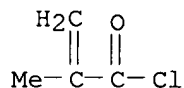
N-Hydroxysuccinimide

RL: **RCT (Reactant); RACT (Reactant or reagent)**

(synthesis of functionalized polymer brushes from methacryloylalanine oxysuccinimide ester and aminolysis)

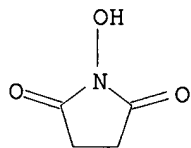
RN 920-46-7 HCAPLUS

CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)



RN 6066-82-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



L44 ANSWER 6 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:109167 HCAPLUS

DN 138:321645

TI Synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes

AU Theato, Patrick; Zentel, Rudolf; Schwarz, Simona

CS Institute of Organic Chemistry, University of Mainz, Mainz, 55099, Germany

SO Macromolecular Bioscience (2002), 2(8), 387-394 Published in:

Macromol. Chem. Phys., 203(16)

CODEN: MBAIBU; ISSN: 1616-5187

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 46, 63

AB In order to build up tether-supported membranes, we have focused on the synthesis of lipopolymers. Different lipid analog initiators based on 2-bromopropionamide have been synthesized. In addn., fluorescence-labeled lipoinitiators using pyrene were synthesized. These initiators were used for the synthesis of polyacrylamide copolymers by atom-transfer **radical polymn.** A final surface-anchor end group was attached to the polymers by polymer analogous reaction. In this way, .alpha., .beta.-functionalized polyacrylamides were obtained. The interaction of these lipopolymers with different lipid bilayer structures was investigated in several expts. The lipopolymers adsorb onto the surface of vesicles as shown by photon correlation spectroscopy and fluorescence measurements. The fixation of these lipopolymers on flat surfaces was studied using surface plasmon spectroscopy. The film thickness of the adsorbed lipopolymer films is about 12 to 20 .ANG.. The surfaces thus modified can be used for the fixation of lipid vesicles to form polymer-supported bilayers. This leads to an addnl. thickness increase of 41-62 .ANG..

ST lipophilic polyacrylamide synthesis surface adsorption amphiphile vesicle

IT **Polymerization** catalysts

(atom transfer, **radical**; synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

IT Chemisorbed substances

(end-functionalized lipopolymers on gold)

IT Isoelectric point

(of end-functionalized lipopolymers)

IT Fluorescence

(of pyrene-labeled end-functionalized lipopolymers)

IT Amphiphiles

Liposomes

(synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

IT 344764-81-4 344764-83-6 344764-84-7 344764-89-2 344764-91-6

344764-93-8 514854-34-3 514854-35-4 514854-36-5

RL: CAT (Catalyst use); USES (Uses)

(ATRP initiator; synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

IT 82235-84-5DP, fatty alkylamine end-functionalized, reaction products with acrylamide-N-(3-dimethylaminopropyl)acrylamide-N-hydroxysuccinimide acrylate block copolymer **514854-37-6DP**, fatty alkylamine end-functionalized, reaction products with cysteamine Me disulfide

RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**

(synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

IT 9003-05-8DP, Polyacrylamide, fatty alkylamine end-functionalized

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE



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IT **514854-37-6DP**, fatty alkylamine end-functionalized, reaction products with cysteamine Me disulfide

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**

(synthesis of end-functionalized lipopolymers and their characterization with regard to polymer-supported lipid membranes)

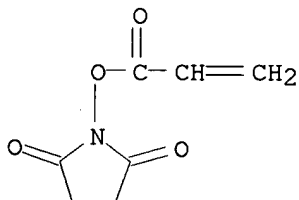
RN 514854-37-6 HCAPLUS

CN 2-Propenamide, N-[3-(dimethylamino)propyl]-, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione and 2-propenamide, block (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

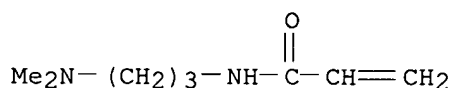
CMF C7 H7 N O4



CM 2

CRN 3845-76-9

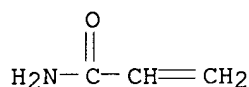
CMF C8 H16 N2 O



CM 3

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 7 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:940484 HCAPLUS

DN 138:137902

TI Photo-Cross-Linkable PNIPAAm Copolymers. 2. Effects of Constraint on Temperature and pH-Responsive Hydrogel Layers

AU Harmon, Marianne E.; Kuckling, Dirk; Frank, Curtis W.

CS Department of Chemical Engineering, Stanford University, Stanford, CA, 94305-5025, USA

SO Macromolecules (2003), 36(1), 162-172

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

CC 36-7 (Physical Properties of Synthetic High Polymers)

AB Photo-cross-linkable co- and terpolymers of N-isopropylacrylamide, 2-(dimethylmaleimido)-N-ethyl-acrylamide as the photosensitive component, and 3-acryloylaminopropionic acid or N-(2-(dimethylamino)ethyl)acrylamide as ionizable comonomers were prep'd. by free **radical polymer.** Aq. solns. of the linear un-cross-linked co- and terpolymers showed lower crit. soln. temp. behavior. The phase transition temp., which was detected by differential scanning calorimetry, ranged from 23.1 to 39.2 .degree.C depending on the pH of the soln. and the compn. of the polymer. Surface plasmon resonance and optical waveguide spectroscopy were used to obtain information about the swelling behavior of hydrogel films of the photo-cross-linked polymers, giving a measurement of film thickness and refractive index. The transition temps. of the cross-linked polymer gels showed similar trends to those of the corresponding linear polymers in soln., and the gels were shown to be both temp.- and pH-responsive, with the transition temp. ranging from 25.3 to 44.9 .degree.C for films having a 200 nm dry film thickness. However, the swelling behavior of the cross-linked gels was found to vary as a function of dry film thickness, and three samples were selected for a more detailed study of how film thickness affects the transition temp. and swelling ratio of hydrogel films. Dry film thicknesses ranged from 9 nm to 2.3 .mu.m, and the swelling behavior of the films fell into two distinct regimes sepd. by a crit. thickness, which ranged from 280 to 500 nm. In the thin-film regime, the transition temp. of the films was independent of film thickness, but the refractive index of the films in the collapsed state decreased as film thickness decreased, indicating that these films are not able to fully collapse. In the thick-film regime, the swelling ratio of the films was independent of film thickness, but the transition temp. decreased as much as 2.6 .degree.C as the film thickness increased. This was explained by the constraint imposed on the film by the presence of a fixed substrate, with the length scale of this constraint related to the crit. thickness. In these films, the ionizable comonomers were found to have little effect on the swelling ratio, which is detd. primarily by

crosslinking d. in the swollen state and by film thickness in the collapsed state.

ST photocrosslinkable PNIPAAm copolymer constraint temp pH responsive hydrogel layer

IT Crosslinking

Hydrogels

Phase transition temperature

Refractive index

Swelling, physical

(constraint effects on temp. and pH-responsive hydrogel layers of photocrosslinkable PNIPAAm copolymers)

IT 262290-75-5P, 2-(Dimethylmaleimido)-N-ethyl-acrylamide-N-isopropylacrylamide copolymer **433939-35-6P**, 3-

Acrylamidopropionic acid-2-(dimethylmaleimido)-N-ethyl-acrylamide-N-isopropylacrylamide copolymer 433939-37-8P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); **SPN (Synthetic preparation); PREP (Preparation)**; PROC (Process)

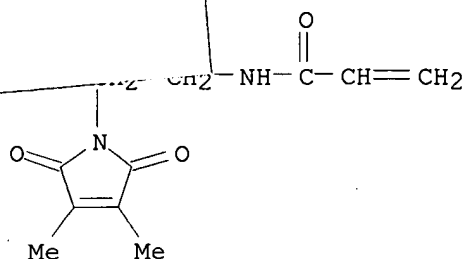
(constraint effects on temp. and pH-responsive hydrogel layers of photocrosslinkable PNIPAAm copolymers)

RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD

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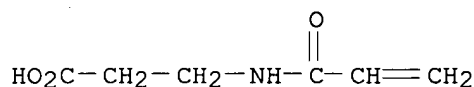
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- IT **433939-35-6P**, 3-Acrylamidopropionic acid-2-(dimethylmaleimido)-N-ethyl-acrylamide-N-isopropylacrylamide copolymer  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); **SPN (Synthetic preparation)**; **PREP (Preparation)**; PROC (Process)  
(constraint effects on temp. and pH-responsive hydrogel layers of photocrosslinkable PNIPAAm copolymers)
- RN 433939-35-6 HCAPLUS
- CN .beta.-Alanine, N-(1-oxo-2-propenyl)-, polymer with N-[2-(2,5-dihydro-3,4-dimethyl-2,5-dioxo-1H-pyrrol-1-yl)ethyl]-2-propenamide and N-(1-methylethyl)-2-propenamide (9CI) (CA INDEX NAME)
- CM 1
- CRN 249621-29-2
- CMF C11 H14 N2 O3



CM 2

CRN 16753-07-4

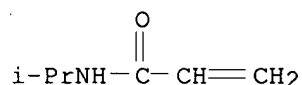
CMF C6 H9 N O3



CM 3

CRN 2210-25-5

CMF C6 H11 N O



L44 ANSWER 8 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:626693 HCAPLUS

DN 137:338277

TI Synthesis of copolymers for biomedical use via living radical polymerization

AU Monge, Sophie; Haddleton, David M.

CS Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(2), 793-794

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal; (computer optical disk)

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 63

AB Copper-mediated living radical polymn. has been successfully used for the synthesis of polymethacrylates for biol. applications.

N-hydroxysuccinimide methacrylate has been polymd. at almost room temp.

and can be used as a precursor in the synthesis of thermosensitive micelles. PEG-b-PBMA-b-PDMAEMA [poly(ethylene glycol)-b-poly(Bu methacrylate)-b-poly(dimethylaminoethyl methacrylate)] triblocks seem to

be good carriers for DNA. Living radical polymn. allows the synthesis of well-defined polymers. This is essential in the biomedical field, which requires precise characteristics for use of polymers synthesized in vivo.

ST polymethacrylate prepn living radical polymn biomedical application

IT Polymerization kinetics  
(living, radical; kinetics of living radical polymn. of hydroxysuccinimide methacrylate)

IT Polymerization  
(living, radical; synthesis of polymethacrylates for biomedical use via living radical polymn.)

IT Molecular weight  
Polydispersity  
(synthesis of polymethacrylates for biomedical use via living radical polymn.)

IT 474013-72-4P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(diblock; synthesis of polymethacrylates for biomedical use via living radical polymn.)

IT 38862-25-8  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(kinetics of living radical polymn. of hydroxysuccinimide methacrylate)

IT **37047-90-8P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis of polymethacrylates for biomedical use via living radical polymn.)

IT 474013-76-8P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(triblock; synthesis of polymethacrylates for biomedical use via living radical polymn.)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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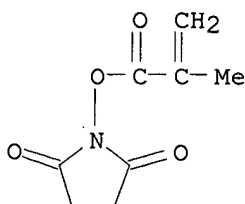
IT **37047-90-8P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis of polymethacrylates for biomedical use via living radical polymn.)

RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8  
CMF C8 H9 N O4



- L44 ANSWER 9 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 2002:625009 HCAPLUS  
 DN 138:304588  
 TI Controlled radical polymerization of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates  
 AU Schilli, Christine; Mueller, Axel H. E.; Rizzardo, Ezio; Thang, San H.; Chong, Bill Y. K.  
 CS Macromolecular Chemistry II, University of Bayreuth NW II, Bayreuth, D-95440, Germany  
 SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2002), 43(2), 687-688  
 CODEN: ACPPAY; ISSN: 0032-3934  
 PB American Chemical Society, Division of Polymer Chemistry  
 DT Journal; (computer optical disk)  
 LA English  
 CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 63  
 AB Reversible addn.-fragmentation chain transfer (RAFT) polymn. was used to synthesize poly(2-vinyl-4,4-dimethyl-5-oxazolone), poly(N-hydroxysuccinimide methacrylate), and poly(N-isopropylacrylamide) as well as N-isopropylacrylamide/acrylic acid (NIPAAm/AA) and NIPAAm/oxazolone block copolymers for use in polymer-protein conjugation. The presence of dithiocarbamate endgroups in the polymer allows for the conjugation of proteins or drugs after hydrolysis of the endgroups to the corresponding thiols. The conjugation can be achieved either via direct disulfide bonding with the aid of sym. disulfides or via the use of space groups such as bismaleimide. With the RAFT process, block copolymers contg. active esters for conjugation to protein amino groups can be synthesized with controlled mol. wts. and narrow polydispersities.  
 ST reversible addn fragmentation chain transfer polymn isopropylacrylamide activated ester; polymer synthesis drug protein conjugation  
 IT Polymers, properties  
 RL: PRP (Properties)  
 (conjugates, with protein or drug; controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)  
 IT Chain transfer agents  
 Polydispersity  
 (controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)  
 IT Polymer degradation  
 (hydrolytic; controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)  
 IT Polymerization

(radical, reversible addn.-fragmentation chain transfer; controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

IT Bond formation

(sulfur-sulfur; controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

IT 25189-55-3P, Poly(N-isopropylacrylamide) 172586-33-3P 510703-83-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

IT 37047-90-8P

RL: PRP (Properties); **SPN (Synthetic preparation)**; THU  
(Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
USES (Uses)

(controlled **radical polymn.** of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

IT 60795-38-2 201611-85-0 460751-38-6

RL: RGT (Reagent); RACT (Reactant or reagent)  
(controlled radical polymn. of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Deshmukh, M; Polymer 2000, V41, P7960
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IT 37047-90-8P

RL: PRP (Properties); **SPN (Synthetic preparation)**; THU  
(Therapeutic use); BIOL (Biological study); **PREP (Preparation)**;  
USES (Uses)

(controlled **radical polymn.** of N-isopropylacrylamide and of activated esters for the synthesis of polymer-protein and polymer-drug conjugates)

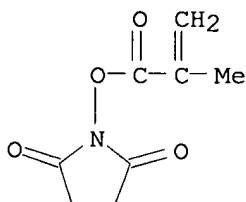
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4





L44 ANSWER 10 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 2002:482991 HCAPLUS  
 DN 137:52468  
 TI Crosslinkable macromers for preparation of matrixes for implanted articles  
 IN Chudzik, Stephen J.; Clapper, David L.  
 PA Surmodics, Inc., USA  
 SO U.S., 14 pp., Cont.-in-part of U. S. 6,156,345.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM A61F002-06  
 ICS A61F002-28; A61F013-00; A61F047-30  
 NCL 424423000  
 CC 63-8 (Pharmaceuticals)  
 Section cross-reference(s): 35, 36  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6410044	B1	20020625	US 2000-571525	20000516
	US 6007833	A	19991228	US 1998-121248	19980723
	US 6156345	A	20001205	US 1999-469976	19991221
	WO 2002100453	A1	20021219	WO 2001-US18345	20010607
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,				
	GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,				
	LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,				
	RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,				
	VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,				
	BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 2003031697	A1	20030213	US 2002-176203	20020620
PRAI	US 1998-78607P	P	19980319		
	US 1998-121248	A3	19980723		
	US 1999-469976	A2	19991221		
	US 2000-571525	A1	20000516		

AB A crosslinkable macromer system and related methods of prep. the system and using the system in the form of a crosslinked matrix between a tissue site and an implant article, such as a tissue implant or on the porous surface of a prosthetic device, is described. The macromer system includes two or more polymer-pendent polymerizable groups and one or more initiator groups (e.g., polymer-pendent initiator groups). The polymerizable groups and the initiator group(s), when polymer-pendent, can be pendent on the same or different polymeric backbones. The macromer system provides advantages over the use of polymerizable macromers and sep., low mol. wt. initiators, including advantages with respect to such properties as nontoxicity, efficiency, and soly. A macromer system of the invention can be used as an interface between the tissue site and implant article in a manner sufficient to permit tissue growth through the crosslinked matrix and between the tissue site and implant. In a preferred embodiment, polymers with pendent polymerizable groups, for use in the macromer system, are prep. by reacting a polysaccharide polymer with a reactive moiety in an org., polar solvent, such as formamide. For example, a biodegradable tissue adhesive was prep. contg. (i) 5% polymerizable hyaluronic acid, prep. by reaction of hyaluronic acid and glycidyl acrylate in dry formamide, and (ii) 2% photoderivatized

polyacrylamide, prepd. from acrylamide and N-(3-aminopropyl)methacrylamide (APMA). The max. force generated by the adhesive prepd. was 0.53 kg compared to 0.49 kg obtained for cyanoacrylate adhesive. Also, the photoderivatized polyacrylamide prepd. was used in combination with polymerizable collagen (a reaction product of a mixt. of type I and type III collagen with acryloyl chloride) for prepn. of a scaffold contg. bone morphogenetic protein (BMP-7). The exptl. disks of solidified collagen scaffold contg. BMP-7 stimulated bone formation in a rat cranial onlay implant model.

- ST macromonomer prepn polymn prosthetic cell immobilization; controlled drug delivery macromer prepn polymn; tissue adhesive macromer prepn polymn; wound dressing macromer prepn polymn
- IT Bone morphogenetic proteins  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(7; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Peptides, biological studies  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(active sites of biol. active proteins; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Blood vessel  
Hip  
Joint, anatomical  
(artificial; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Adhesives  
(biol. tissue, biodegradable; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Drug delivery systems  
(controlled-release; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Medical goods  
(dressings; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Prosthetic materials and Prosthetics  
(implants, vascular; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Dental materials and appliances  
Prosthetic materials and Prosthetics  
(implants; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Joint, anatomical  
(knee, artificial; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Pore size  
Porosity  
(of implant surfaces; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Animal tissue  
Antibacterial agents  
Antimicrobial agents

- Bone formation
- Crosslinking
- Immobilization, molecular
- Polymerization catalysts
- Transplant and Transplantation
- Wound healing promoters
  - (prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Vinyl compounds, uses
  - RL: CAT (Catalyst use); USES (Uses)
  - (prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Macromonomers
  - RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
  - (prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Albumins, biological studies
- Collagens, biological studies
- Elastins
- Fibronectins
- Gelatins, biological studies
- Laminins
- Polysaccharides, biological studies
  - RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
  - (prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Eye
  - (prostheses for; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT **Polymerization**
  - (**radical**; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Animal tissue
  - (soft, prostheses; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Pentosans
  - RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
  - (sulfates; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Drug delivery systems
  - (sustained-release, coatings for; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Medical goods
  - (tissue adhesives, biodegradable; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Collagens, biological studies
  - RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
  - (type I; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)

- IT Collagens, biological studies  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(type III; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT Hydrogels  
(wound dressings; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 110-18-9, TEMED  
RL: NUU (Other use, unclassified); USES (Uses)  
(oxygen scavenger; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 9004-61-9DP, Hyaluronic acid, reaction products with glycidyl acrylate  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(polymerizable; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 78-67-1, 2,2'-Azobisisobutyronitrile  
RL: CAT (Catalyst use); USES (Uses)  
(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 60-32-2, 6-Aminohexanoic acid 79-06-1, Acrylamide, reactions 80-62-6, Methyl methacrylate 88-12-0, reactions 95-96-5, 3,6-Dimethyl-1,4-dioxane-2,5-dione 106-90-1, Glycidyl acrylate 108-31-6, Maleic anhydride, reactions 502-44-3, .epsilon.-Caprolactone 814-68-6, Acryloyl chloride 6066-82-6, N-Hydroxysuccinimide 17372-87-1, Eosin Y 39148-58-8, 4-Benzoylbzoyl chloride 42503-45-7, Pentaerythritol ethoxylate 51763-07-6, 7-Methyl-9-oxothioxanthene-3-carboxylic acid 72607-53-5, N-(3-Aminopropyl)methacrylamide hydrochloride 244211-74-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 55750-53-3P, 6-Maleimidohexanoic acid 55750-63-5P 57079-14-8P 244202-40-2P 244202-41-3P 244202-49-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 244202-45-7DP, acryloyl derivs. 244202-48-0P 244202-50-4P 244202-51-5P 438537-01-0P 438544-14-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9005-25-8, Starch, biological studies 9005-49-6, Heparin, biological studies 9007-28-7, Chondroitin sulfate 9012-76-4, Chitosan 9042-14-2, Dextran sulfate 9050-30-0, Heparan sulfate 9056-36-4, Keratan sulfate 24967-94-0, Dermatan sulfate  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)
- IT 106-90-1DP, Glycidyl acrylate, reaction products with hyaluronic acid  
**438537-00-9P**

RL: **SPN (Synthetic preparation)**; THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)

IT 56-81-5, Glycerol, biological studies 56-95-1, Chlorhexidine diacetate 102-71-6, Triethanolamine, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)

IT 75-12-7, Formamide, uses

RL: NUU (Other use, unclassified); USES (Uses)

(solvent; prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT **438537-00-9P**

RL: **SPN (Synthetic preparation)**; THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; USES (Uses)

(prepn. of crosslinkable macromers and polymer matrixes for cell immobilization, tissue adherence and controlled drug delivery)

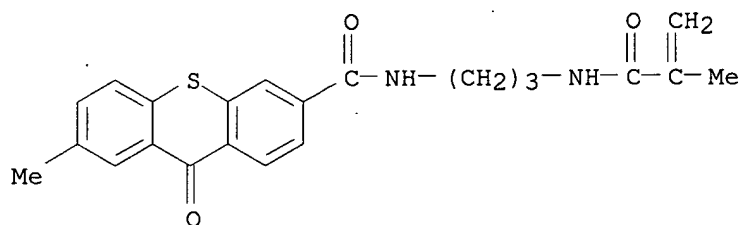
RN 438537-00-9 HCAPLUS

CN 9H-Thioxanthene-3-carboxamide, 7-methyl-N-[3-[(2-methyl-1-oxo-2-propenyl)amino]propyl]-9-oxo-, polymer with 1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-1H-pyrrole-2,5-dione and 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 244202-41-3

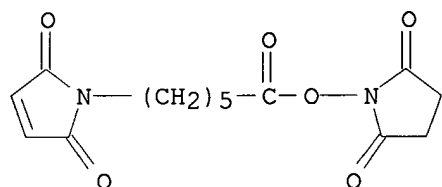
CMF C22 H22 N2 O3 S



CM 2

CRN 55750-63-5

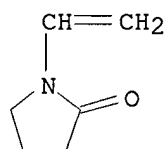
CMF C14 H16 N2 O6



CM 3

CRN 88-12-0

CMF C6 H9 N O



L44 ANSWER 11 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 2002:275116 HCAPLUS  
 DN 137:48103  
 TI Preparation of self-organized micro-patterned polymer films having cell  
 adhesive ligands  
 AU Nishida, Jin; Nishikawa, Kazutaka; Nishimura, Shin-Ichiro; Wada, Shigeo;  
 Karino, Takeshi; Nishikawa, Takehiro; Ijio, Kuniharu; Shimomura,  
 Masatsugu  
 CS Research Institute for Electronic Science, Hokkaido University, Sapporo,  
 060-0812, Japan  
 SO Polymer Journal (Tokyo, Japan) (2002), 34(3), 166-174  
 CODEN: POLJB8; ISSN: 0032-3896  
 PB Society of Polymer Science, Japan  
 DT Journal  
 LA English  
 CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 6, 35, 37

- AB This article describes novel three methods for micro-patterning of cell adhesive ligands by using the self-organized honeycomb-patterned structure formed by the simple cast method. A first method is a direct prepn. of a patterned film by casting an amphiphilic polymer contg. lactose residue which is one of cell adhesive ligands. A benzene soln. of the amphiphilic polymer was cast at high humidity on a glass substrate. At. force microscopy (AFM) observation of the film showed that a honeycomb pattern with microporousness with as large as micrometer size in diam. was formed. The film was immersed into an aq. fluorescence-labeled lectin soln. to investigate the distribution of lactoses on the patterned film. Consistence of a fluorescence image of the lectin bound film with the honeycomb pattern showed that the lactose residues were existed not at the holes but at the rims of the honeycomb-patterned film. A second method is to immobilize gelatin, which is one also one of cell adhesive ligands, on the honeycomb-patterned film by chem. reaction. A honeycomb-patterned film was prepd. from chloroform soln. of an amphiphilic polymer contg. reactive succinimide ester groups, and then the film was immersed into an aq. fluorescence-labeled gelatin soln. to introduce gelatin on the film surface. Immobilization of gelatin onto honeycomb-patterned film was confirmed by the fluorescence microscope. A third method is another way to introduce gelatin onto the honeycomb film by the specific avidin-biotin interaction. A honeycomb-patterned film was prepd. from amphiphilic polymer contg. biotin residues and dodecyl groups, and then the film was immersed into a avidin soln. and a biotinylated fluorescence labeled gelatin soln. successively. By the fluorescence microscopic observation of the film, gelatin was confirmed to be immobilized at the rims of the honeycomb pattern via the avidin-biotin interaction. Cell culture was performed on the gelatin immobilized patterned film prepd. by second method. Bioactivity of gelatin immobilized honeycomb-patterned film was confirmed by adhesion of cell onto the film.
- ST self organized micropatterned polymer cell adhesive ligand; honeycomb patterning polymer cell adhesive ligand
- IT Animal tissue culture  
(endothelial, harvested from bovine aorta; methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)
- IT Erythrina crista-galli  
(fluorescein isothiocyanate from, polymers with gelatin; methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)
- IT Adhesion, physical  
Biotinylation  
Honeycomb structures  
Immobilization  
Polymer morphology  
(methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)
- IT Ligands  
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)
- IT **Polymerization**  
(**radical**; methods for prepn. of self-organized

micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)

## IT Gelatins, properties

RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(reaction products, with biotin derivs.; methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)

## IT 27072-45-3DP, Fluorescein isothiocyanate, reaction products with gelatin

RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(from Erythrina crista-galli; methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)

## IT 66640-86-6DP, reaction products with N-dodecylacrylamide-N-hydroxysuccinimidyl 6-acrylamidohexanoate copolymer 72040-63-2DP, reaction products with gelatin 256239-34-6P 258337-40-5P, 6-Acrylamidohexanoic acid-N-dodecylacrylamide copolymer

**438544-69-5DP**, reaction products with biotin derivs.

**438544-69-5P**, N-Dodecylacrylamide-N-hydroxysuccinimidyl 6-acrylamidohexanoate copolymer

RL: BSU (Biological study, unclassified); PRP (Properties); **SPN**

**(Synthetic preparation)**; BIOL (Biological study); **PREP**

**(Preparation)**

(methods for prepn. of self-organized micro-patterned polymer films having cell adhesive ligands and their structural characteristics and bioactivities)

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

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IT 438544-69-5DP, reaction products with biotin derivs.

438544-69-5P, N-Dodecylacrylamide-N-hydroxysuccinimidyl  
6-acrylamidohexanoate copolymer

RL: BSU (Biological study, unclassified); PRP (Properties); SPN

(Synthetic preparation); BIOL (Biological study); PREP

(Preparation)

(methods for prepn. of self-organized micro-patterned polymer films  
having cell adhesive ligands and their structural characteristics and  
bioactivities)

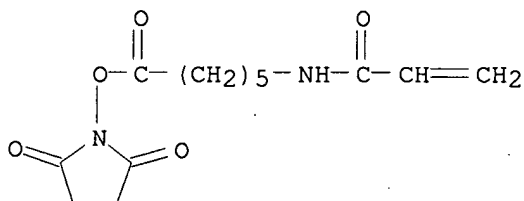
RN 438544-69-5 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-, polymer  
with N-dodecyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 63392-86-9

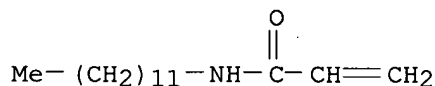
CMF C13 H18 N2 O5



CM 2

CRN 1506-53-2

CMF C15 H29 N O



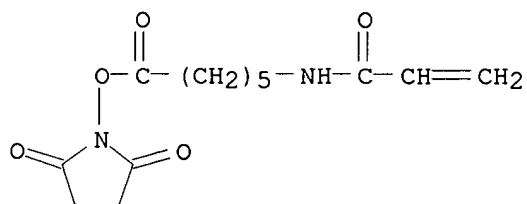
RN 438544-69-5 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-, polymer  
with N-dodecyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 63392-86-9

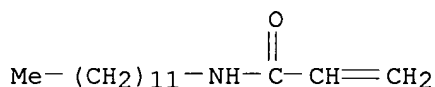
CMF C13 H18 N2 O5



CM 2

CRN 1506-53-2

CMF C15 H29 N O



L44 ANSWER 12 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:147660 HCAPLUS

DN 136:201032

TI Imidated acrylic compounds, their manufacture, and photocurable polymer compositions containing them, and stereolithography using the compositions with good dimensional stability

IN Tamura, Junichi; Hagiwara, Tsuneo; Otake, Makoto; Okazaki, Eiichi; Muramatsu, Yasunori; Suzuki, Toshiharu; Shinoda, Minoru

PA Teijin Seiki Co., Ltd., Japan; Toa Gosei Chemical Industry Co., Ltd.; Takemoto Oil and Fat Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F220-34

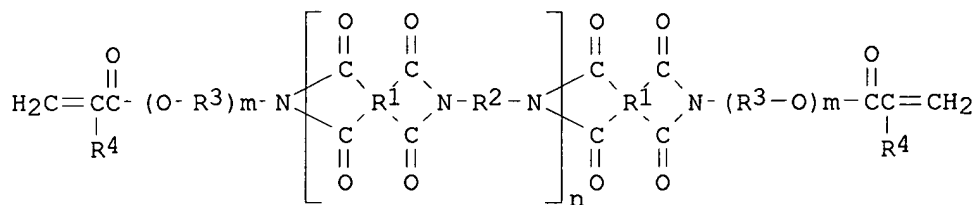
ICS C07D403-14; C08F002-50; C08F290-06; C08J005-00; C08L033-14

CC 37-6 (Plastics Manufacture and Processing)

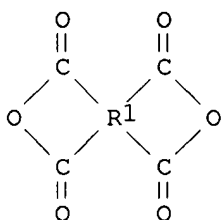
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002060435	A2	20020226	JP 2000-249356	20000821
PRAI	JP 2000-249356		20000821		
GI					



I



II

- AB The compns. for stereolithog. contain (A) .gtoreq.1 imidated acrylic compds.  $\text{CH}_2:\text{CR}_4\text{CO}(\text{OR}_3)_m\text{Z}(\text{R}_3\text{O})_m\text{COCR}_4:\text{CH}_2$  [I; A = N; R1 = (substituted) alicyclic group, (substituted) arom. group, (substituted) aliph. group; R1 may contain etheric O; R1 = divalent diamine; R3 = divalent aminoalc.; R4 = H, Me; m = 1-6; n = 1-5], (B) other **radically** or cationically **polymerizable** compds., and (C) photopolymer. initiators. The imidated acrylic compds. I are manufd. by reaction of acid anhydrides II (R1 = same as I) with  $\text{H}_2\text{NR}_2\text{NH}_2$  (R2 = divalent org. group) to give Z (A = O; R1, R2, and n are same as I), reaction with aminoalcs.  $\text{H}(\text{OR}_3)_m\text{NH}_2$  (R3 and m are same as I) to give diols  $\text{H}(\text{OR}_3)_m\text{Z}(\text{R}_3\text{O})_m\text{H}$  (R1-R3, m, and n are same as I), and reaction with (meth)acrylic acid (halides). Thus, a compn. contg. I (R1 = O, R2 = R3 =  $\text{CH}_2\text{CH}_2$ ; R4 = H, m = 1; n = 0-4; prepd. from 3,4-dicarboxy-1,2,3,4-tetrahydro-1-naphthalenesuccinic dianhydride, ethylenediamine, .beta.-aminoethyl alc., and acryloyl chloride) 180, reaction products of IPDI, morpholineacrylamide, 2-hydroxyethyl acrylate, and pentaerythritol 300, and dicyclopentanyl diacrylate 120 g was mixed with 18 g Irgacure 184 (1-hydroxycyclohexyl Ph ketone) to give a colorless transparent viscous compn. with viscosity .apprxeq.20 Pa-s, which was applied to photolithog. process to give a molded test piece with tensile strength 11 kg/mm<sup>2</sup>, tensile elongation 4.0%, tensile modulus 324 kg/mm<sup>2</sup>, heat distortion temp. 245.degree., and vol. shrinkage after curing 6.0%.
- ST imidated acrylic oligomeric photocurable stereolithog; acid anhydride diamine acrylate ester photocurable; ethylenediamine dicarboxytetrahydro naphthalenesuccinic anhydride aminoethyl acrylate photocurable stereolithog; dimensional stability stereophotolithog polyimide acrylate
- IT Polyimides, preparation  
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (acrylate-terminated; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT Polyimides, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or

- engineered material use); PREP (Preparation); USES (Uses)  
(acrylic; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT Molded plastics, properties  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT Photolithography  
Stereolithography  
(stereophotolithog.; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT 115-77-5DP, Pentaerythritol, reaction products with IPDI and hydroxyethyl acrylate **141-43-5DP**, .beta.-Aminoethyl alcohol, reaction products with oligomeric polyimides and acryloyl chloride 814-68-6DP, Acryloyl chloride, reaction products with oligomeric polyimides and aminoethyl alc. 818-61-1DP, 2-Hydroxyethyl acrylate, reaction products with IPDI and pentaerythritol 4098-71-9DP, Isophorone diisocyanate, reaction products with hydroxyethyl acrylate and pentaerythritol 400820-11-3DP, terminated with aminoethyl alc. and acryloyl chloride  
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT **400820-12-4P** 400820-13-5DP, terminated with aminoethyl alc. and acryloyl chloride  
RL: CPS (Chemical process); **IMF (Industrial manufacture)**; PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; PROC (Process); USES (Uses)  
(manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT 7398-56-3, Dicyclopentanyl acrylate 53058-82-5  
RL: TEM (Technical or engineered material use); USES (Uses)  
(manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT 947-19-3, Irgacure 184  
RL: CAT (Catalyst use); USES (Uses)  
(photopolymn. initiator; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT 78-90-0, 1,2-Diaminopropane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with cyclohexyltetra-carboxylic dianhydride; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT 2754-41-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with diamine; manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)
- IT **141-43-5DP**, .beta.-Aminoethyl alcohol, reaction products with oligomeric polyimides and acryloyl chloride  
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)

RN 141-43-5 HCAPLUS

CN Ethanol, 2-amino- (8CI, 9CI) (CA INDEX NAME)

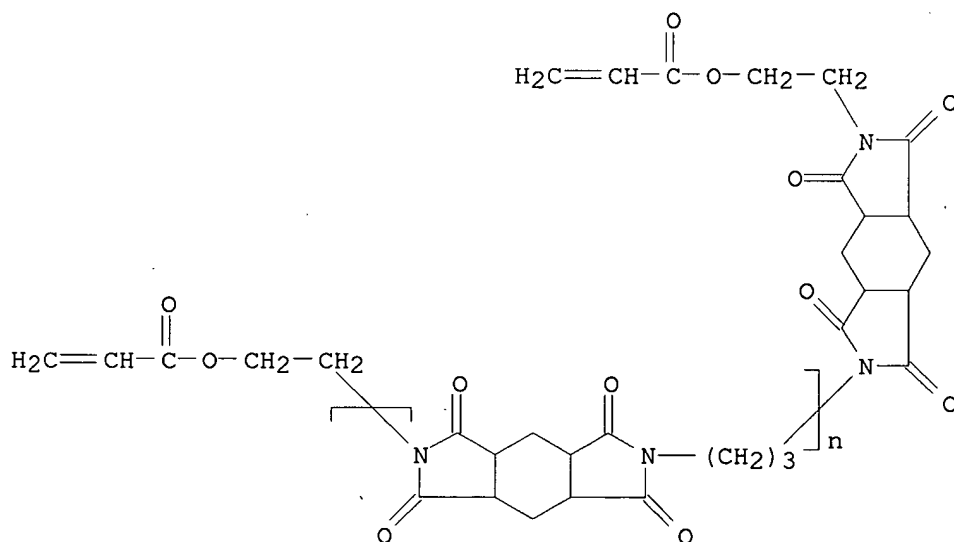
H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-OH

IT 400820-12-4P

RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (manuf. of imidated acrylic compds. for photocurable polymer compns. used in stereolithog. process with good dimensional stability)

RN 400820-12-4 HCAPLUS

CN Poly[(octahydro-1,3,5,7-tetraoxobenzo[1,2-c,4,5-c']dipyrrole-2,6(1H,3H)-diyl)-1,3-propanediyl], .alpha.-[2-[(1-oxo-2-propenyl)oxy]ethyl]-.omega.-[decahydro-1,3,5,7-tetraoxo-6-[2-[(1-oxo-2-propenyl)oxy]ethyl]benzo[1,2-c:4,5-c']dipyrrol-2(1H)-yl]- (9CI) (CA INDEX NAME)



L44 ANSWER 13 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:87270 HCAPLUS

DN 136:131197

TI Surface-attached polyfunctional polymer networks for sensor chips

IN Ruehe, Juergen

PA Biochip Technologies G.m.b.H., Germany

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N033-543

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

ICS C12Q001-68  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 35  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1176423	A1	20020130	EP 2000-116340	20000727
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	WO 2002010758	A2	20020207	WO 2001-EP8546	20010724
	WO 2002010758	A3	20021205		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRAI EP 2000-116340 A 20000727

AB The invention relates to polyfunctional polymer networks comprising an assembly of cross-linked polymer sub-chains attached to a surface, with each polymer subchain comprising a multitude of identical or different repeating units carrying one or more functional groups which allows an interaction with a sample or probe mol.

ST biosensor app surface polymer network immobilization DNA protein diagnosis

IT Crosslinking agents  
 (acrylics; surface-attached polyfunctional polymer networks for sensor chips)

IT Silanes  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 (alkoxy; surface-attached polyfunctional polymer networks for sensor chips)

IT Ketones, reactions  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
 (aroms., contg. sulfur; surface-attached polyfunctional polymer networks for sensor chips)

IT Functional groups  
 (azo; surface-attached polyfunctional polymer networks for sensor chips)

IT Immunoglobulins  
 RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (fragments; surface-attached polyfunctional polymer networks for sensor chips)

IT Solid phase synthesis  
 (peptide; surface-attached polyfunctional polymer networks for sensor chips)

IT Functional groups  
 (peroxo; surface-attached polyfunctional polymer networks for sensor chips)

IT **Polymerization**  
**Polymerization catalysts**  
 (radical; surface-attached polyfunctional polymer networks for sensor chips)

IT Glass, uses  
 RL: CAT (Catalyst use); DEV (Device component use); USES (Uses)

- (substrate; surface-attached polyfunctional polymer networks for sensor chips)
- IT Analytical apparatus  
Biosensors  
Crosslinking  
Diagnosis  
Immobilization, molecular  
Microarray technology  
Nucleic acid hybridization  
Washing  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT Antibodies  
Nucleic acids  
Peptide nucleic acids  
Peptides, analysis  
Polysaccharides, analysis  
Proteins  
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT Acrylic polymers, preparation  
RL: ARG (Analytical reagent use); DEV (Device component use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT Azides  
Carboxylic acids, uses  
Epoxides  
Isothiocyanates  
RL: DEV (Device component use); PRP (Properties); USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT Ketones, reactions  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT Thiols (organic), reactions  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT 206117-38-6P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(as polymn. initiator; surface-attached polyfunctional polymer networks for sensor chips)
- IT 57950-55-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; surface-attached polyfunctional polymer networks for sensor chips)
- IT **392235-61-9P**  
RL: ARG (Analytical reagent use); DEV (Device component use); **SPN (Synthetic preparation)**; ANST (Analytical study); **PREP (Preparation)**; USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT 78-67-1, Azobisisobutyronitrile  
RL: CAT (Catalyst use); USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)
- IT 79-10-7, Acrylic acid, uses 79-41-4, Methacrylic acid, uses 88-12-0, uses 541-59-3, Maleimide 2680-03-7  
RL: DEV (Device component use); PRP (Properties); USES (Uses)

(surface-attached polyfunctional polymer networks for sensor chips)  
 IT 6066-82-6, N-Hydroxy succinimide  
 RL: DEV (Device component use); PRP (Properties); **RCT (Reactant)**  
**; RACT (Reactant or reagent)**; USES (Uses)  
 (surface-attached polyfunctional polymer networks for sensor chips)  
 IT 7704-34-9, Sulphur, properties  
 RL: PRP (Properties)  
 (surface-attached polyfunctional polymer networks for sensor chips)  
 IT 13465-78-6, Chlorosilane 16734-12-6, Disulfide  
 RL: PRP (Properties); RCT (Reactant); **RACT (Reactant or reagent)**  
 (surface-attached polyfunctional polymer networks for sensor chips)  
 IT 60-32-2, 6-Aminocaproic acid 107-18-6, Allyl alcohol, reactions  
**920-46-7**, Methacrylic acid chloride 1066-35-9, Dimethyl chloro  
 silane 2638-94-0, 4,4'-Azobis-(4-cyano pentanoic acid)  
 RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**  
 (surface-attached polyfunctional polymer networks for sensor chips)  
 IT 17170-81-9P 59178-92-6P 124334-87-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT**  
 (Reactant or reagent)  
 (surface-attached polyfunctional polymer networks for sensor chips)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Biochip Technologies Gmbh; WO 0043539 A 2000
- (2) Centre Nat Rech Scient; FR 2682609 A 1993 HCAPLUS
- (3) Devivar, R; WO 9832790 A 1998 HCAPLUS
- (4) Ebersole, R; US 5695925 A 1997 HCAPLUS
- (5) Ghosh, S; US 5478893 A 1995 HCAPLUS
- (6) Mage, M; US 5026785 A 1991 HCAPLUS
- (7) Nakashima, T; US 4352884 A 1982 HCAPLUS
- (8) Prucker, O; LANGMUIR 1998, V14(24), P6893 HCAPLUS
- (9) Prucker, O; MACROMOLECULES 1998, V31(3), P592 HCAPLUS
- (10) Prucker, O; MACROMOLECULES 1998, V31(3), P602 HCAPLUS

IT 392235-61-9P

RL: ARG (Analytical reagent use); DEV (Device component use); **SPN**  
**(Synthetic preparation)**; ANST (Analytical study); **PREP**  
**(Preparation)**; USES (Uses)

(surface-attached polyfunctional polymer networks for sensor chips)

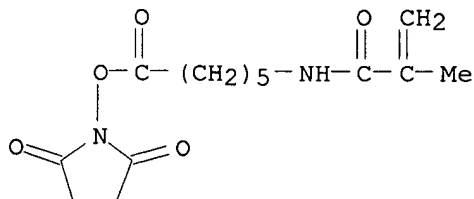
RN 392235-61-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with  
 N,N-dimethyl-2-propenamide and N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-  
 oxohexyl]-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-55-7

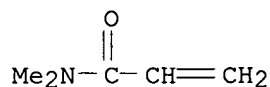
CMF C14 H20 N2 O5





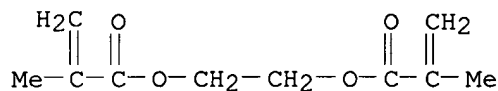
CM 2

CRN 2680-03-7  
CMF C5 H9 N O

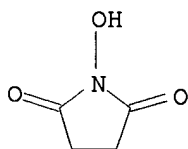


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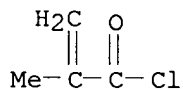
CRN 97-90-5  
CMF C10 H14 O4



IT 6066-82-6, N-Hydroxy succinimide  
RL: DEV (Device component use); PRP (Properties); **RCT (Reactant)**  
; **RACT (Reactant or reagent)**; USES (Uses)  
(surface-attached polyfunctional polymer networks for sensor chips)  
RN 6066-82-6 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



IT 920-46-7, Methacrylic acid chloride  
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**  
(surface-attached polyfunctional polymer networks for sensor chips)  
RN 920-46-7 HCAPLUS  
CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)



L44 ANSWER 14 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 2002:11676 HCAPLUS  
DN 136:263555  
TI On the improved accessibility of dendronized macromonomers with peripheral  
protected amine groups  
AU Zhang, Afang; Vetter, Serge; Schluter, A. Dieter  
CS Institut für Chemie, Freie Universität Berlin, Berlin, D-14195, Germany

- SO Macromolecular Chemistry and Physics (2001), 202(17), 3301-3315  
CODEN: MCHPES; ISSN: 1022-1352
- PB Wiley-VCH Verlag GmbH
- DT Journal
- LA English
- CC 35-5 (Chemistry of Synthetic High Polymers)
- AB Efficient syntheses of tert-butyloxycarbonyl (Boc) and/or benzyloxycarbonyl (Cbz) protected, amine terminated, first (G1) and second generation (G2) dendronized macromonomers, mostly based on methacrylate polymerizable units, are reported. Whenever appropriate the routes to these monomers are compared with one another, and to related macromonomers in the literature, which results in a comprehensive efficiency and availability picture. On these grounds the methacrylate macromonomers 18 and 37 are identified as model systems for the systematic development of the chem. and properties of surface functionalized dendronized polymers. The latter is available on the 8-15 g scale, depending on the route. Provisional expts. with some of the macromonomers prove their polymerizability.
- ST acrylate methacrylate polyamide dendrimer macromonomer synthesis
- IT Polyamides, preparation  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(dendrimers, macromonomers; prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT Dendritic polymers  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(polyamides, macromonomers; prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT Macromonomers  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT **Polymerization**  
(**radical**, soln.; of dendronized macromonomers with peripheral protected amine groups)
- IT 405195-70-2P 405195-71-3P 405195-72-4P 405195-73-5P 405195-74-6P  
405195-84-8P 405195-85-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(macromonomer; prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT 349560-08-3P 405195-99-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(macromonomer; prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT 56-91-7, 4-(Aminomethyl)benzoic acid 107-11-9, Allylamine 501-53-1, Benzyloxycarbonyl chloride 814-68-6, Acryloyl chloride **920-46-7**, Methacryloyl chloride 2973-77-5, 3,5-Dibromo-4-hydroxybenzaldehyde 2973-78-6, 3-Bromo-4-hydroxybenzaldehyde **6066-82-6**, N-Hydroxysuccinimide 19874-84-1 24424-99-5 67973-33-5, Ethyl 3,5-dibromobenzoate 68373-12-6 78888-18-3 210355-26-3 223678-12-4 349560-02-7  
RL: **RCT (Reactant); RACT (Reactant or reagent)**  
(prepn. of dendronized macromonomers with peripheral protected amine groups)
- IT 5041-33-8P 33837-93-3P 34403-46-8P 122234-46-2P 210355-22-9P

210355-25-2P 349560-00-5P 405195-62-2P 405195-63-3P 405195-64-4P  
405195-65-5P 405195-66-6P 405195-67-7P 405195-68-8P 405195-69-9P  
405195-80-4P 405195-81-5P 405195-82-6P 405195-83-7P 405195-88-2P  
405195-89-3P 405195-90-6P 405195-91-7P 405195-92-8P 405195-93-9P  
405195-94-0P 405195-95-1P 405195-96-2P 405195-97-3P 405195-98-4P  
405196-01-2P 405196-03-4P 405196-04-5P 405196-05-6P 405196-06-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(prepn. of dendronized macromonomers with peripheral protected amine groups)

IT 405195-75-7P 405195-76-8P 405195-77-9P 405195-78-0P 405195-79-1P  
405195-86-0P 405195-87-1P

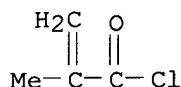
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of dendronized macromonomers with peripheral protected amine groups)

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD

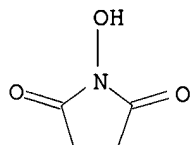
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IT 920-46-7, Methacryloyl chloride 6066-82-6,  
N-Hydroxysuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. of dendronized macromonomers with peripheral protected amine  
groups)  
RN 920-46-7 HCAPLUS  
CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)



RN 6066-82-6 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



L44 ANSWER 15 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 2001:790532 HCAPLUS  
DN 136:86122  
TI Relative lectin binding properties of T-antigen-containing glycopolymers:  
copolymerization of N-acryloylated T-antigen monomer vs. graft conjugation  
of aminated T-antigen ligands onto poly(N-acryloxysuccinimide)  
AU Baek, Myung-Gi; Roy, Rene  
CS Department of Chemistry, Center for Research in Biopharmaceuticals,  
University of Ottawa, Ottawa, ON, K1N 6N5, Can.  
SO Macromolecular Bioscience (2001), 1(7), 305-311 Published in:  
Macromol. Chem. Phys., 202(14)  
CODEN: MBAIBU; ISSN: 1616-5187  
PB Wiley-VCH Verlag GmbH  
DT Journal  
LA English  
CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 6  
AB Water-sol. T-antigen-(Gal.beta.(1-3)-Gal-NAc.alpha.) contg. random  
glycopolymers were synthesized by two strategies: (i) radical copolymn. of  
N-acryloylated monomers with (NH4)2S2O8 and (ii) graft conjugation of an  
end-group-aminated T-antigen together with labeling reagent by amidation  
onto poly(N-acryloxysuccinimide) and its derivs. followed by quenching  
with NH4OH. All glycoconjugates demonstrated antigenicity by  
double-radial immunodiffusion assays with peanut lectin from Arachis  
hypogaea. The biocytin-labeled terpolymer also showed practical  
heterobifunctional antigenicity toward peanut lectin and streptavidin,  
giving the corresponding two precipitin bands in the assay.  
ST acryloylated antigen polyacryloxysuccinimide polymn graft conjugation  
IT Amidation

- (prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT Agglutinins and Lectins  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)  
(prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT Glycoconjugates  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT **Polymerization**  
(radical; prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT 37017-08-6P, Poly(N-acryloxysuccinimide) **52609-74-2P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)**  
(intermediate; prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT 38862-24-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT 576-19-2DP, Biocytin, reaction products with polyacryloxysuccinimide and T-antigen 37017-08-6DP, Poly(N-acryloxysuccinimide), reaction products with T-antigens **52609-74-2DP**, reaction products with T-antigen 252371-33-8P 252371-66-7P 296283-42-6DP, reaction products with polyacryloxysuccinimide or poly(acrylamide-acryloxysuccinimide)  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- IT 814-68-6, Acryloyl chloride 6066-82-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)
- RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 52609-74-2P

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)

(intermediate; prepn. and relative lectin binding properties of T-antigen-contg. glycopolymers)

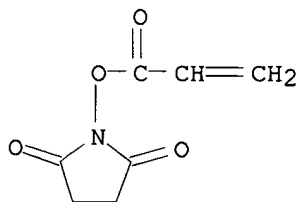
RN 52609-74-2 HCAPLUS

CN 2-Propenamide, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

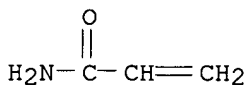
CMF C7 H7 N O4



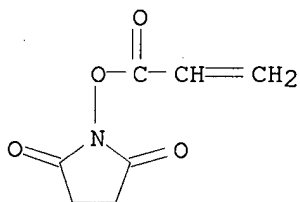
CM 2

CRN 79-06-1

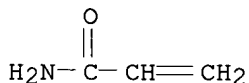
CMF C3 H5 N O



IT 52609-74-2DP, reaction products with T-antigen  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and relative lectin binding properties of T-antigen-contg.  
glycopolymers)  
RN 52609-74-2 HCAPLUS  
CN 2-Propenamide, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione  
(9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 38862-24-7  
CMF C7 H7 N O4



CM 2  
  
CRN 79-06-1  
CMF C3 H5 N O



L44 ANSWER 16 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 2001:324461 HCAPLUS  
DN 134:341666  
TI Manufacture of anionically polymerizable compositions containing radically  
polymerized polymers  
IN Maeda, Masahiko; Matsukawa, Kenji; Katsuyama, Yoshihiro; Tamura, Fumihide  
PA Nippon Shokubai Kagaku Kogyo Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C08F290-12  
ICS C08F002-44; C08L101-00; C08L101-06  
CC 42-10 (Coatings, Inks, and Related Products)  
FAN.CNT 1  

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001122934	A2	20010508	JP 1999-307777	19991028
PRAI JP 1999-307777		19991028		

AB The compns., useful for coatings, adhesives, etc., are manufd. without

gelation by radical polymn. of monomers bearing one radically polymerizable group in liq. monomers contg. .gtoreq.1 anionically polymerizable group and no radically polymerizable group. Thus, a 120:4 Me methacrylate-AIBN mixt. was added to 80 parts .gamma.-butyrolactone and polymd. for 6 h to give a compn. showing viscosity 1300 cP at 25.degree., solids content 60%, Mn 3800, and Mw 7100. This compn. was mixed with 5 parts BuLi, applied on glass, and cured at room temp. for 24 h to give coatings with good curability.

ST anionic polymn butyrolactone methyl methacrylate polymer; radical polymn glycidyl methacrylate butyl acrylate; room temp curable coating anionic polymn

IT Polyamides, uses

Polyesters, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of anionically polymerizable resin compns. contg. radically polymd. polymers)

IT Coating materials

(room-temp.-curable; manuf. of anionically polymerizable resin compns. contg. radically polymd. polymers)

IT 9003-32-1P, Ethyl acrylate homopolymer 9003-49-0P, Poly(butyl acrylate) 9003-53-6P, Polystyrene 9011-14-7P, Poly(methyl methacrylate) 24938-43-0P, Poly[oxy(1-oxo-1,3-propanediyl)] 25014-12-4P, Polymethacrylamide 25037-58-5P, .beta.-Propiolactone homopolymer 25038-54-4P, .epsilon.-Caprolactam homopolymer, uses 25038-87-3P, Methyl vinyl ketone homopolymer 25101-57-9P, Phenylmaleimide homopolymer 25265-27-4P, Phenyl glycidyl ether homopolymer 25587-85-3P, Dimethyl itaconate homopolymer 25610-58-6P, Butyl glycidyl ether homopolymer 25988-53-8P, Poly(allylbenzene) 28728-97-4P, Poly[oxy(1-oxo-1,4-butanediyl)] 29014-71-9P, Poly(dibutyl fumarate) 30231-16-4P, Poly(diethyl maleate) 31213-03-3P, .gamma.-Butyrolactone homopolymer 72018-12-3P, N-Vinylformamide homopolymer 336608-52-7P

**337506-96-4P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of anionically polymerizable resin compns. contg. radically polymd. polymers)

IT 156023-75-5P, Glycidyl methacrylate-glycidyl phenyl ether-styrene copolymer 337506-95-3P 337506-98-6P 337506-99-7P, Glycidyl methacrylate-methyl vinyl ketone-N-vinylpyrrolidone copolymer 337507-00-3P, 1,3-Dichloropropene-glycidyl methacrylate-isobutyl vinyl ether copolymer 337507-01-4P, Butyl glycidyl ether-glycidyl methacrylate-methyl methacrylate copolymer 337507-02-5P, Butyl glycidyl ether-glycidyl methacrylate copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of anionically polymerizable resin compns. contg. radically polymd. polymers)

IT **337506-96-4P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manuf. of anionically polymerizable resin compns. contg. radically polymd. polymers)

RN 337506-96-4 HCAPLUS

CN Hexanedioic acid, bis[(3-ethyl-3-oxetanyl)methyl] ester, polymer with

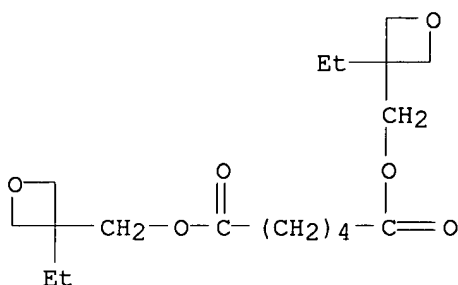


[(ethenyloxy)methyl]oxirane and 1-phenyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

CM 1

CRN 70839-05-3

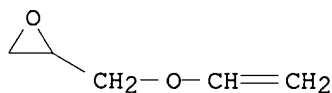
CMF C18 H30 O6



CM 2

CRN 3678-15-7

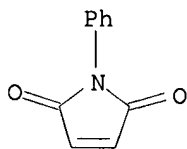
CMF C5 H8 O2



CM 3

CRN 941-69-5

CMF C10 H7 N O2



L44 ANSWER 17 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:185822 HCAPLUS

DN 134:223181

TI Preparation of uniform molecular weight polymers by controlled **radical polymerization**

IN Brocchini, Stephen James; Godwin, Antony

PA School of Pharmacy, University of London, UK

SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

DT Patent

*applicant*

LA English  
 IC ICM C08F246-00  
 ICS C08F020-34; C08F020-36; A61K047-48  
 CC 35-4 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001018080	A1	20010315	WO 2000-GB3456	20000908
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1222217	A1	20020717	EP 2000-958841	20000908
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003508606	T2	20030304	JP 2001-522301	20000908
PRAI	EP 1999-307152	A	19990908		
	WO 2000-GB3456	W	20000908		
AB	Title polymer comprises the unit of $-\text{[CH(R)C(R1)(COOX)]}-$ , wherein R is selected from the group consisting of H, C1-18 alkyl, C1-18 alkenyl, C1-18 aralkyl, C1-18 alkaryl, carboxylic acid, carboxy C1-6 alkyl, or any one of the C1-18 alkyl, C1-18 alkenyl, C1-18 aralkyl, C1-18 alkaryl substituted with a heteroatom within, or attached to the carbon backbone; R1 is selected from the group consisting of H, C1-6 alkyl groups; X is an acylating agent and wherein the polymer has a polydispersity of <1.4, preferably <1.2 and a mol. wt. (Mw) of <100,000, the polymer is preferably made by controlled <b>radical polymn.</b> and is useful in the prodn. of polymer drug conjugates with desirable biol. profiles. Thus, methacryloxysuccinimide prepd. from N-hydroxysuccinimide and methacryloyl chloride was polymd. in the presence of CuBr, 2,2-bipyridine and 2-hydroxyethyl 2-bromo-2-methylpropanoate to give a homopolymer with yield 92%, av. no. mol. wt. 16,800, and polydispersity 1.15.				
ST	methacryloxysuccinimide homopolymer prepn <b>radical polymn</b> mol wt polydispersity; acrylate deriv <b>radical polymn</b> mol wt polydispersity				
IT	<b>Polymerization</b> (atom transfer, <b>radical</b> ; prepn. and properties of uniform mol. wt. polymers by controlled <b>radical polymn.</b> )				
IT	Solvent effect (on prepn. of uniform mol. wt. polymers by controlled <b>radical polymn.</b> )				
IT	Molecular weight Molecular weight distribution Polydispersity (prepn. and properties of uniform mol. wt. polymers by controlled <b>radical polymn.</b> )				
IT	Drugs (prepn. of uniform mol. wt. polymers by controlled <b>radical polymn.</b> for manuf. of medicaments)				
IT	<b>Polymerization</b> <b>Polymerization catalysts</b> ( <b>radical</b> ; prepn. of uniform mol. wt. polymers by controlled				

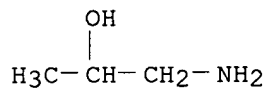
- radical polymn.)**
- IT 7787-70-4, Copper monobromide  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst; prepn. and properties of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 189324-13-8  
RL: CAT (Catalyst use); USES (Uses)  
(initiator; prepn. and properties of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 366-18-7, 2,2'-Bipyridine 3030-47-5 33527-91-2  
RL: CAT (Catalyst use); USES (Uses)  
(ligand; prepn. and properties of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 38862-25-8P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; prepn. of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 78-96-6DP, 1-Amino-2-propanol, reaction products with methacryloxysuccinimide homopolymer 141-43-5DP, Ethanolamine, reaction products with methacryloxysuccinimide homopolymer 616-34-2DP, reaction products with methacryloxysuccinimide homopolymer, hydrolyzed 37047-90-8DP, hydrolyzed, sodium salts 37047-90-8DP, reaction products with aminopropanol or glycine Me ether, hydrolyzed 74815-54-6DP, reaction products with methacryloxysuccinimide homopolymer  
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
(prepn. and properties of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 37047-90-8P  
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
(prepn. of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 67-64-1, Acetone, uses 67-68-5, DMSO, uses 68-12-2, Dimethylformamide, uses 75-05-8, Acetonitrile, uses 109-99-9, THF, uses 123-39-7, Methylformamide 126-33-0, Sulfolane 141-78-6, Ethyl acetate, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent; prepn. and properties of uniform mol. wt. polymers by controlled **radical polymn.)**
- IT 920-46-7, Methacryloyl chloride 6066-82-6, N-Hydroxysuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prepn. of uniform mol. wt. polymers by controlled **radical polymn.)**
- RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE
- (1) Boehringer Mannheim GmbH; FR 2358394 A 1978 HCAPLUS  
(2) E I Du Pont de Nemours; WO 9830601 A 1998 HCAPLUS  
(3) Eastman Kodak Co; EP 0496472 A 1992 HCAPLUS
- IT 78-96-6DP, 1-Amino-2-propanol, reaction products with methacryloxysuccinimide homopolymer 141-43-5DP, Ethanolamine, reaction products with methacryloxysuccinimide homopolymer 616-34-2DP, reaction products with methacryloxysuccinimide homopolymer, hydrolyzed 37047-90-8DP, hydrolyzed, sodium salts 74815-54-6DP, reaction products with methacryloxysuccinimide homopolymer

RL: IMF (Industrial manufacture); PRP (Properties); PREP  
(Preparation)

(prepn. and properties of uniform mol. wt. polymers by controlled  
radical polymn.)

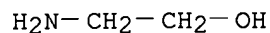
RN 78-96-6 HCAPLUS

CN 2-Propanol, 1-amino- (8CI, 9CI) (CA INDEX NAME)



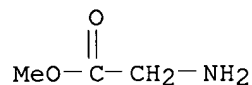
RN 141-43-5 HCAPLUS

CN Ethanol, 2-amino- (8CI, 9CI) (CA INDEX NAME)



RN 616-34-2 HCAPLUS

CN Glycine, methyl ester (6CI, 8CI, 9CI) (CA INDEX NAME)



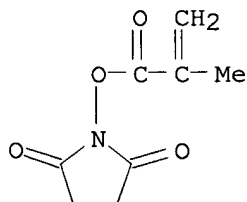
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

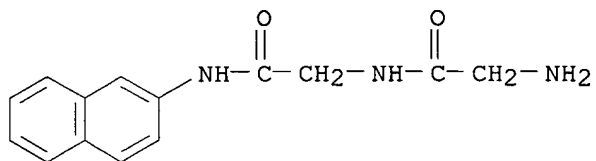
CRN 38862-25-8

CMF C8 H9 N O4



RN 74815-54-6 HCAPLUS

CN Glycinamide, glycyL-N-2-naphthalenyl- (9CI) (CA INDEX NAME)

IT **37047-90-8P**RL: **IMF (Industrial manufacture)**; PRP (Properties); **PREP****(Preparation)**(prepn. of uniform mol. wt. polymers by controlled **radical**  
**polymn.**)

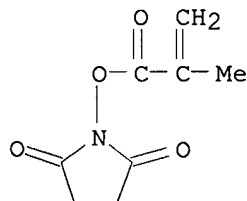
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4

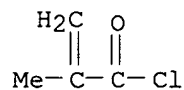
IT **920-46-7, Methacryloyl chloride 6066-82-6,**

N-Hydroxysuccinimide

RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**(starting material; prepn. of uniform mol. wt. polymers by controlled  
**radical polymn.**)

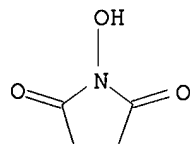
RN 920-46-7 HCAPLUS

CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)



RN 6066-82-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



L44 ANSWER 18 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:740214 HCAPLUS

DN 134:17771

TI Synthesis of heat-resistant copolymers by atom transfer radical polymerization

AU Jiang, Xu-Lin; Yan, De-Yue; Liu, Wan-Li

CS College of Chemistry and Chemical Technology, Shanghai Jiaotong University, Shanghai, 200240, Peop. Rep. China

SO Gaodeng Xuexiao Huaxue Xuebao (2000), 21(10), 1613-1615

CODEN: KTHPDM; ISSN: 0251-0790

PB Gaodeng Jiaoyu Chubanshe

DT Journal

LA Chinese

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

AB Atom transfer radical copolymn. (ATRP) of styrene (St) and N-cyclohexylmaleimide (NCMI) with the CuBr/bpy (2,2'-bipyridine) catalyst in anisole, initiated by 1-phenylethyl bromide (1-PEBr) or tetra-(bromomethyl)benzene (TBMB), afforded well-defined copolymer with predetd. mol. wts. and low polydispersities, Mw/Mn < 1.5. Other monomer pairs such as Me methacrylate (MMA)/NCMI, St/N-phenylmaleimide, MMA/N-phenylmaleimide were studied, too. The influences of several factors, such as temp., solvent and monomer's ratio on the copolymn. with the CuBr/bpy catalyst system were subsequently investigated. The apparent activation energy of St (MMA) and NCMI was deduced from the kinetics figure of different temps. Using TBMB as the initiator produced four-armed star copolymer. The heat resistance of the resultant copolymer has been improved by increasing the NCMI.

ST atom transfer radical polymn heat resistant copolymer prepn;  
cyclohexylmaleimide atom transfer radical polymn heat resistant copolymer prepn

IT Polymerization  
(atom transfer, radical; kinetics of atom transfer radical polymn. in prepn. of heat-resistant copolymer)

IT Polymerization catalysts  
(atom transfer, radical; synthesis and properties of heat-resistant copolymers by atom transfer radical polymn.)

IT Reactivity ratio in polymerization  
(kinetics of atom transfer radical polymn. in prepn. of heat-resistant copolymer)

IT Polymerization kinetics  
(radical; kinetics of atom transfer radical polymn. in prepn. of heat-resistant copolymer)

IT Glass transition temperature

Heat-resistant materials

Molecular weight

Polydispersity

(synthesis and properties of heat-resistant copolymers by atom transfer radical polymn.)

IT 54409-23-3, Tetrabromotoluene

RL: CAT (Catalyst use); USES (Uses)

(initiator; synthesis and properties of heat-resistant copolymers by atom transfer radical polymn.)

IT 100-42-5, Styrene, reactions

RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

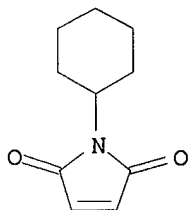
(kinetics of atom transfer radical polymn. in prepn. of heat-resistant

- copolymer)  
IT 86293-61-0P, N-Cyclohexylmaleimide-styrene copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and properties of heat-resistant copolymers by atom transfer radical polymn.)  
IT 1631-25-0, N-Cyclohexylmaleimide  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(synthesis of heat-resistant copolymers by atom transfer radical polymn.)  
IT 105469-99-6P, N-Cyclohexylmaleimide-methyl methacrylate copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis of heat-resistant copolymers by atom transfer radical polymn.)  
IT 105469-99-6P, N-Cyclohexylmaleimide-methyl methacrylate copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis of heat-resistant copolymers by atom transfer radical polymn.)  
RN 105469-99-6 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
1-cyclohexyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

CM 1

CRN 1631-25-0

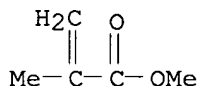
CMF C10 H13 N O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



L44 ANSWER 19 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:558151 HCAPLUS

DN 133:252788

TI Atom transfer radical copolymerization of methyl methacrylate with  
N-cyclohexylmaleimide

- AU Jiang, Xulin; Yan, Deyue; Zhong, Yalan; Liu, Wanli; Chen, Qingxiang  
CS College of Chemistry and Chemical Technology, Shanghai Jiao Tong  
University, Shanghai, 200240, Peop. Rep. China  
SO Polymer International (2000), 49(8), 893-897  
CODEN: PLYIEI; ISSN: 0959-8103  
PB John Wiley & Sons Ltd.  
DT Journal  
LA English  
CC 35-3 (Chemistry of Synthetic High Polymers)  
AB Atom transfer radical polymn. has been applied to simultaneously  
copolymerize Me methacrylate (MMA) and N-cyclohexylmaleimide (NCMI). Mol.  
wt. behavior and kinetic study on the copolymn. with the CuBr/bipyridine  
(bpy) catalyst system in anisole indicate that the copolymn. behaves in a  
"living" fashion. The influence of several factors, such as temp.,  
solvent, initiator, and monomer ratio, on the copolymn. were investigated.  
Copolymn. of in the presence of CuBr/bpy using cyclohexanone as a solvent  
instead of anisole displayed poor control. The monomer reactivity ratios  
were evaluated as  $r_{\text{NCMI}} = 0.26$  and  $r_{\text{MMA}} = 1.35$ . The glass transition  
temp. of the resulting copolymer increased with increasing NCMI concn.  
The thermal stability of Plexiglas could be improved through incorporation  
of NCMI.
- ST atom transfer radical polymn reactivity ratio; cyclohexylmaleimide  
methacrylate polymn catalyst; copper bromide bipyridine catalyst polymn;  
solvent effect atom transfer radical polymn; kinetics atom transfer  
radical polymn
- IT Polymerization catalysts  
(atom transfer, radical; for polymn. of Me methacrylate with  
cyclohexylmaleimide)
- IT Polymerization  
(atom transfer, radical; solvent effect on Me methacrylate polymn. with  
cyclohexylmaleimide)
- IT Solvent effect  
(on atom transfer radical polymn. of Me methacrylate with  
cyclohexylmaleimide)
- IT Polymerization kinetics  
Reactivity ratio in polymerization  
(radical, atom transfer; of Me methacrylate with cyclohexylmaleimide)
- IT 100-39-0, Benzyl bromide 535-11-5, Ethyl 2-bromopropionate 585-71-7,  
1-Phenylethyl bromide 7787-70-4, Cuprous bromide 37275-48-2,  
Bipyridine  
RL: CAT (Catalyst use); USES (Uses)  
(in catalyst for atom transfer radical polymn. of Me methacrylate with  
cyclohexylmaleimide)
- IT 1631-25-0, N-Cyclohexylmaleimide  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(kinetics and reactivity ratio in atom transfer radical polymn. with Me  
methacrylate)
- IT 80-62-6, Methyl methacrylate  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(kinetics and reactivity ratio in atom transfer radical polymn. with  
cyclohexylmaleimide)
- IT **105469-99-6P**, N-Cyclohexylmaleimide-methyl methacrylate copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP**  
**(Preparation)**  
(prepn. by atom transfer **radical polymn.**)
- IT 100-66-3, Anisole, uses 108-94-1, Cyclohexanone, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(solvent in atom transfer radical polymn. of Me methacrylate with



cyclohexylmaleimide)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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IT 105469-99-6P, N-Cyclohexylmaleimide-methyl methacrylate copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(prepn. by atom transfer radical polymn.)

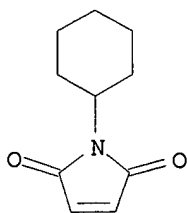
RN 105469-99-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
1-cyclohexyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

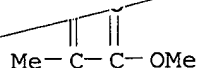
CM 1

CRN 1631-25-0

CMF C10 H13 N O2



CM 2



L44 ANSWER 20 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:274149 HCAPLUS

DN 133:89904

TI A polymer Langmuir-Blodgett film containing porphyrin chromophore

AU Feng, Fei; Miyashita, Tokuji; Amao, Yutaka; Asai, Keisuke

CS Institute for Chemical Reaction Science, Tohoku University, Sendai, Japan

SO Thin Solid Films (2000), 366(1,2), 255-259

CODEN: THSFAP; ISSN: 0040-6090

PB Elsevier Science S.A.

DT Journal

LA English

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

AB A polymer Langmuir-Blodgett (LB) film contg. a large porphyrin chromophore was prep'd. from the copolymer (pDDA-Por), consisting of N-dodecylacrylamide (DDA) and N-[(N'-aminopropyl)pyridyltriphenylporphyrinate(Zn(II))]-acrylamide (Por). First, the pDDA-SuOA (SuOA = N-acryloxysuccinimide) copolymer was prep'd. by free **radical**

**polymn.** in toluene at 60.degree. with AIBN as thermal initiator.

The copolymer (pDDA-Por) was prep'd. by the replacement reaction of pDDA-SuOA with the asym. porphyrin, (N-aminopropyl)pyridyltriphenylporphyrinate (Zn(II)) in CHCl3 under reflux for 12 h; after the replacement reaction, dodecylamine was added to replace unreacted SuOA. The spreading behavior of a copolymer monolayer at the air-water interface was studied by measuring the surface pressure (.pi.)-surface area (A) isotherm. The isotherm indicates that pDDA-Por forms a stable, condensed monolayer with a steep rise in .pi., and has a high collapse pressure of 52 mN/m. The monolayer can be transferred onto hydrophobic solid supports giving a typical Y-type LB film. A flat orientation of the porphyrin ring in the LB films is proposed, based on absorption dichroism measurements.

ST dodecylacrylamide pyridyltriphenylporphyrinate zinc acrylamide copolymer prep'n; Langmuir Blodgett film polyacrylamide zinc porphyrin copolymer; chromophore porphyrin Langmuir Blodgett film UV absorbance; absorption dichroism polyacrylamide zinc porphyrin chromophore LB film

IT Dichroism

Langmuir-Blodgett films

Molecular orientation

Optical films

Surface pressure

UV and visible spectra

Wetting

(prep'n. and surface properties and dichroism of poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin chromophore LB optical films)

IT **Polymerization**

(**radical**; prep'n. and surface properties and dichroism of poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin

- chromophore LB optical films)
- IT 69458-21-5P, 5-(4-Pyridyl)-10,15,20-triphenylporphyrin 251093-20-6P,  
5-(4-Aminopropylpyridinium)-10,15,20-triphenylporphyrin bromide  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(intermediate; prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)
- IT 212833-46-ODP, N-Acryloxysuccinimide-N-dodecylacrylamide  
copolymer, reaction products with zinc aminopropylpyridinium  
triphenylporphyrin 251570-32-8DP, reaction products with  
N-acryloxysuccinimide-N-dodecylacrylamide copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)
- IT 109-97-7, Pyrrole 557-34-6, Zinc acetate 872-85-5, Pyridine-4-aldehyde  
18370-81-5, 3-Bromopropylamine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)
- IT 212833-46-OP, N-Acryloxysuccinimide-N-dodecylacrylamide copolymer  
251570-32-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)
- RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE
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IT **212833-46-0DP**, N-Acryloxysuccinimide-N-dodecylacrylamide  
copolymer, reaction products with zinc aminopropylpyridinium  
triphenylporphyrin

RL: PRP (Properties); **SPN (Synthetic preparation); PREP**

**(Preparation)**

(prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)

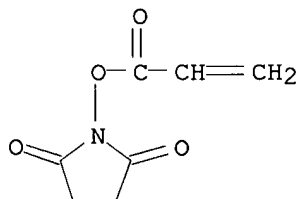
RN 212833-46-0 HCAPLUS

CN 2-Propenamide, N-dodecyl-, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-  
pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

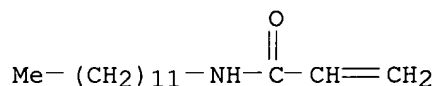
CMF C7 H7 N O4



CM 2

CRN 1506-53-2

CMF C15 H29 N O



IT **212833-46-0P**, N-Acryloxysuccinimide-N-dodecylacrylamide copolymer

RL: RCT (Reactant); **SPN (Synthetic preparation); PREP**

**(Preparation);** RACT (Reactant or reagent)

(prepn. and surface properties and dichroism of  
poly(acryloxysuccinimide-N-dodecylacrylamide)-zinc porphyrin  
chromophore LB optical films)

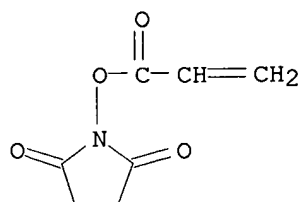
RN 212833-46-0 HCAPLUS

CN 2-Propenamide, N-dodecyl-, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-  
pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

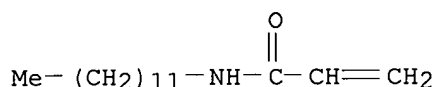
CMF C7 H7 N O4



CM 2

CRN 1506-53-2

CMF C15 H29 N O



L44 ANSWER 21 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:125674 HCAPLUS

DN 132:251452

TI Synthesis and radical polymerization of bifunctional maleimides with different functional reactivities

AU Ahn, Kwang-Duk; Kim, Jong-Man; Lee, Chan-Woo; Han, Dong Keun; Lee, Dong-Yean; Lee, Young-Moo

CS Functional Polymer Laboratory, Korea Institute of Science and Technology, Seoul, 130-650, S. Korea

SO Journal of Macromolecular Science, Pure and Applied Chemistry (2000), A37(1 &amp; 2), 117-131

CODEN: JSPCE6; ISSN: 1060-1325

PB Marcel Dekker, Inc.

DT Journal

LA English

CC 35-2 (Chemistry of Synthetic High Polymers)

AB Three bifunctional N-phenylmaleimide derivs., N-[4-(2-hydroxy-3-methacryloyloxy propyloxycarbonyl)phenyl]maleimide (GMAPMI, 1), N-(4-methacryloyloxyphenyl) maleimide (MAPMI, 2) and 4-(4-maleimidobenzoyloxy)styrene (MIBOSt, 3) having radically polymerizable maleimide and vinyl groups together have been synthesized and polymd. Polymns. of the bifunctional maleimide monomers were carried out using a radical initiator at 55.degree. and the results were compared with those obtained by self-polymn. in the absence of initiators. All of the polymers obtained were insol. in org. solvents owing to crosslinking between different functional groups. The reactivity for homopolymn. of monomer 3 is higher than that of monomers 1 and 2 because the styryl moiety of monomer 3 has better electron-donor strength than the methacrylate moiety. Under the same conditions, GMAPMI was copolymd. with N-vinyl-2-pyrrolidone and styrene as an electron-donor to give higher conversions by electron-donor/acceptor polymn. in which the maleimide moiety of GMAPMI mainly involved as an electron acceptor.

ST maleimide deriv monomer prepn radical polymn reactivity

IT Polymerization  
(radical; synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

IT 2628-17-3P, 4-Hydroxystyrene 7300-91-6P, N-(4-Hydroxyphenyl)maleimide 17057-04-4P, N-(4-Carboxyphenyl)maleimide 29305-46-2P, 4-Maleimidobenzoyl chloride  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

IT 149193-35-1P 161632-69-5P 251321-71-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

IT 106-91-2, Glycidyl methacrylate 920-46-7, Methacryloyl chloride 2628-16-2, 4-Acetoxystyrene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

IT 251321-72-9P 251321-73-0P 262371-91-5P 262371-92-6P 262371-93-7P 262371-94-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 251321-72-9P 251321-73-0P 262371-91-5P 262371-92-6P 262371-93-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis and radical polymn. of bifunctional maleimides with different functional reactivities)

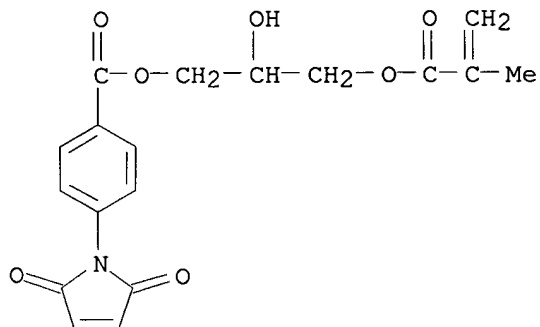
RN 251321-72-9 HCAPLUS

CN Benzoic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-,  
2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, polymer with  
1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 251321-71-8

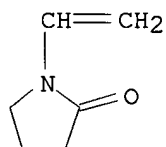
CMF C18 H17 N O7



CM 2

CRN 88-12-0

CMF C6 H9 N O



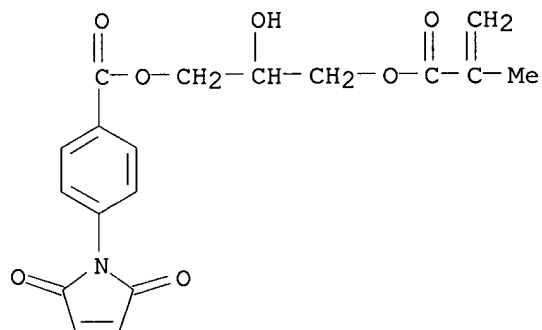
RN 251321-73-0 HCAPLUS

CN Benzoic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-,  
2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, polymer with  
ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 251321-71-8

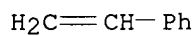
CMF C18 H17 N O7



CM 2

CRN 100-42-5

CMF C8 H8



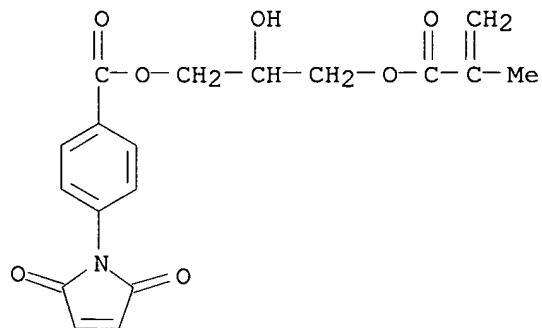
RN 262371-91-5 HCAPLUS

CN Benzoic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-,  
2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 251321-71-8

CMF C18 H17 N O7



RN 262371-92-6 HCAPLUS

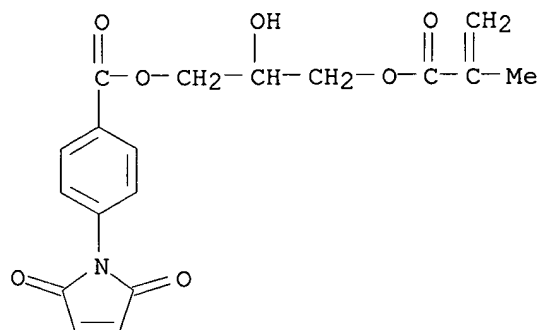
CN Benzoic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-,  
2-hydroxy-3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl ester, polymer with  
methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 251321-71-8



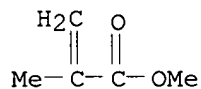
CMF C18 H17 N O7



CM 2

CRN 80-62-6

CMF C5 H8 O2



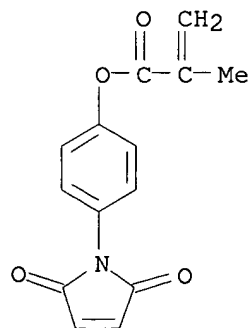
RN 262371-93-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)phenyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 149193-35-1

CMF C14 H11 N O4



L44 ANSWER 22 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:625778 HCAPLUS

DN 131:337380

TI Synthesis and polymerization of a novel functional acrylamide

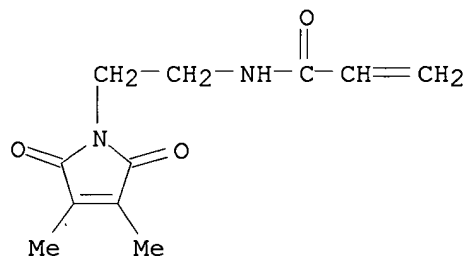
- AU Ling, Long; Habicher, W. D.; Kuckling, D.; Adler, H.-J.  
CS Institute of Organic Chemistry, Dresden University of Technology, Dresden, 01062, Germany  
SO Designed Monomers and Polymers (1999), 2(4), 351-358  
CODEN: DMPOF3; ISSN: 1385-772X  
PB VSP BV  
DT Journal  
LA English  
CC 35-2 (Chemistry of Synthetic High Polymers)  
AB N-[2-(3,4-Dimethyl-2,5-dioxo-2,5-dihydro-1-pyrrolyl)ethyl]acrylamide, a novel functional acrylamide, was synthesized by an efficient four-step procedure starting from 1,2-diaminoethane. This monomer can be homopolymerized or copolymerized with Me methacrylate by AIBN as an initiator. The new monomer and the polymers were characterized by FT-IR and NMR spectroscopy, and by GPC and MALDI-TOF-MS.  
ST acrylamide pyrrolidinedione deriv prepolymer; maleimidoethylacrylamide deriv prepolymer  
IT **Polymerization**  
(**radical**; of maleimidoethylacrylamide deriv.)  
IT 23918-29-8P, N-(2-Aminoethyl)acrylamide 57260-73-8P 165196-44-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; prepolymer and polymer of maleimidoethylacrylamide deriv.)  
IT 249621-29-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; prepolymer and polymer of maleimidoethylacrylamide deriv.)  
IT 249621-30-5P **249621-31-6P**, N-[2-(3,4-Dimethyl-2,5-dioxo-2,5-dihydro-1-pyrrolyl)ethyl]acrylamide-methyl methacrylate copolymer  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepolymer and polymer of maleimidoethylacrylamide deriv.)  
IT 107-15-3, 1,2-Ethanediamine, reactions 766-39-2, Dimethylmaleic anhydride 814-68-6, 2-Propenoyl chloride 24424-99-5, Di-tert-butyl dicarbonate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; prepolymer and polymer of maleimidoethylacrylamide deriv.)  
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
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 IT **249621-31-6P**, N-[2-(3,4-Dimethyl-2,5-dioxo-2,5-dihydro-1-pyrrolyl)ethyl]acrylamide-methyl methacrylate copolymer  
 RL: **SPN (Synthetic preparation); PREP (Preparation)**  
 (prepn. and polymn. of maleimidoethylacrylamide deriv.)  
 RN 249621-31-6 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 N-[2-(2,5-dihydro-3,4-dimethyl-2,5-dioxo-1H-pyrrol-1-yl)ethyl]-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 249621-29-2

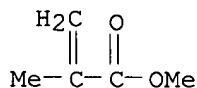
CMF C11 H14 N2 O3



CM 2

CRN 80-62-6

CMF C5 H8 O2



L44 ANSWER 23 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:505078 HCAPLUS

DN 131:272287

TI Synthesis and **radical polymerization** of  
 end-methacrylated poly(succinimide) leading to poly(aspartic acid)  
 hydrogel

AU Kakuchi, Toyoji; Kusuno, Atsushi; Shibata, Minako; Nakato, Takeshi

CS Graduate School Environmental Earth Science, Hokkaido Univ., Sapporo, 060,  
 Japan

SO Macromolecular Rapid Communications (1999), 20(8), 410-414

CODEN: MRCOE3; ISSN: 1022-1336

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

CC 35-5 (Chemistry of Synthetic High Polymers)

AB The polycondensation of aspartic acid in the presence of phthalic anhydride was carried out in mesitylene/sulfolane using o-phosphoric acid as a catalyst. The polymer yields were 91-78%, when 5-20 mol-% phthalic anhydride was added into the feed. The obtained poly(succinimide) carried a phthalimide unit and a succinic acid unit as end groups. In the MALDI-TOF mass spectrum, the peak-to-peak distances between adjacent signals were 97.07 m/z, corresponding to the calcd. value (97.07) of the succinimide unit. Poly(succinimide) was reacted with 2-(methacryloxy)ethyl isocyanate to give end-methacrylated poly(succinimide), in which the end-functionality of the methacrylate group was ca. 1. End-methacrylated poly(succinimide) was polymd. with ethylene glycol dimethacrylate using 2,2'-azoisobutyronitrile to give poly(succinimide) gel, which could be converted into water-absorbing poly(aspartic acid) hydrogel.

ST polysuccinimide methacrylate network ethylene glycol dimethacrylate

IT Polyamides, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (polymethacrylate-, graft; synthesis and **radical polymn.** of end-methacrylated poly(succinimide) leading to poly(aspartic acid) hydrogel)

IT Polyimides, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis and **radical polymn.** of end-methacrylated poly(succinimide) leading to poly(aspartic acid) hydrogel)

IT 25608-40-6DP, L-Aspartic acid homopolymer, phthalimide- and methacrylate-terminated, polymer with ethylene glycol dimethacrylate, hydrolyzed

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (succinimide group-contg.; synthesis and **radical polymn.** of end-methacrylated poly(succinimide) leading to poly(aspartic acid) hydrogel)

IT **245508-33-2P 245508-34-3P 245508-37-6DP,** hydrolyzed **245508-37-6P** 245508-38-7P, L-Aspartic acid-ethylene glycol dimethacrylate graft copolymer sodium salt

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)** (synthesis and **radical polymn.** of end-methacrylated poly(succinimide) leading to poly(aspartic acid) hydrogel)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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IT **245508-33-2P 245508-34-3P 245508-37-6DP,** hydrolyzed **245508-37-6P**

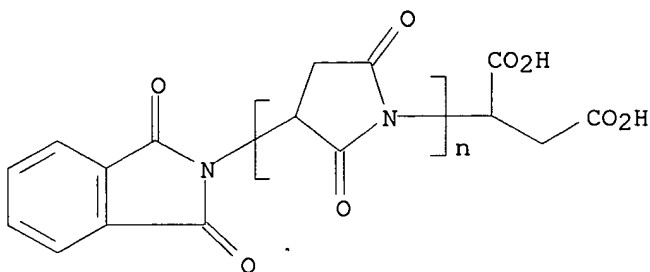
RL: PRP (Properties); **SPN (Synthetic preparation); PREP**

**(Preparation)**

(synthesis and **radical polymn.** of end-methacrylated  
poly(succinimide) leading to poly(aspartic acid) hydrogel)

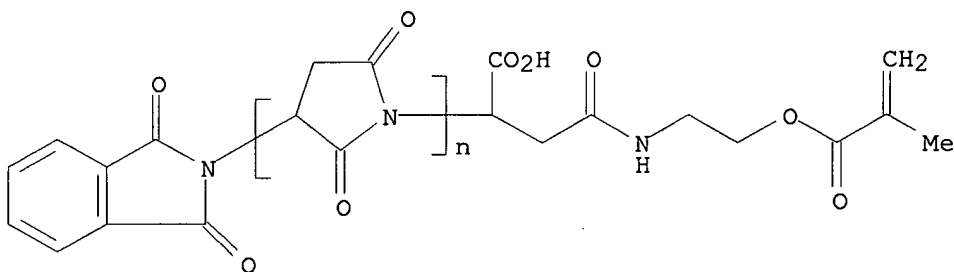
RN 245508-33-2 HCAPLUS

CN Poly(2,5-dioxo-1,3-pyrrolidinediyl), .alpha.-(1,2-dicarboxyethyl)-.omega.-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)- (9CI) (CA INDEX NAME)



RN 245508-34-3 HCAPLUS

CN Poly(2,5-dioxo-1,3-pyrrolidinediyl), .alpha.-[1-carboxy-3-[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]-3-oxopropyl]-.omega.-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)- (9CI) (CA INDEX NAME)



RN 245508-37-6 HCAPLUS

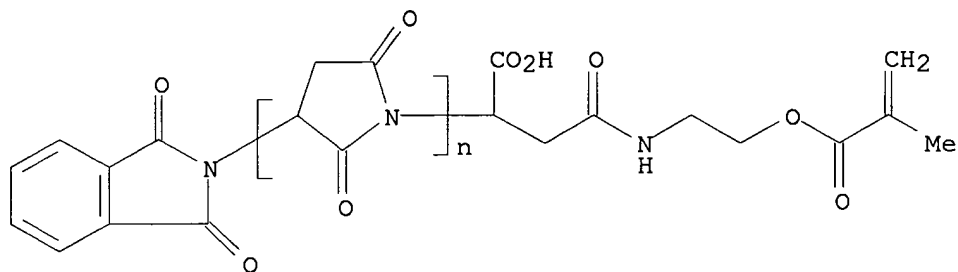
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with .alpha.-[1-carboxy-3-[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]-3-oxopropyl]-.omega.-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)poly(2,5-dioxo-1,3-pyrrolidinediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 245508-34-3

CMF (C4 H3 N O2)<sub>n</sub> C18 H18 N2 O7

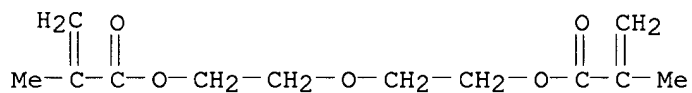
CCI PMS



CM 2

CRN 2358-84-1

CMF C12 H18 O5



RN 245508-37-6 HCAPLUS

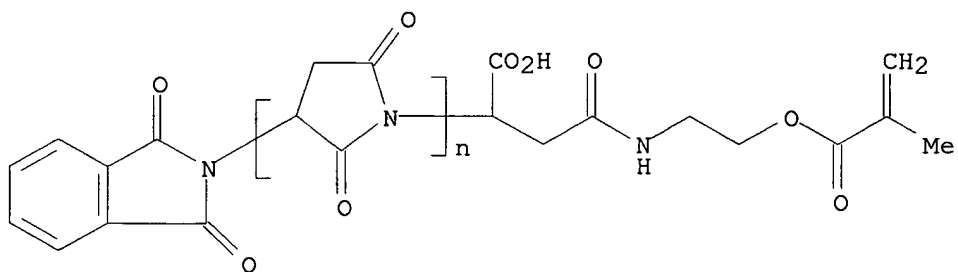
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with  
 .alpha.-[1-carboxy-3-[[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]amino]-3-oxopropyl]-.omega.-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)poly(2,5-dioxo-1,3-pyrrolidinediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 245508-34-3

CMF (C4 H3 N O2)<sub>n</sub> C18 H18 N2 O7

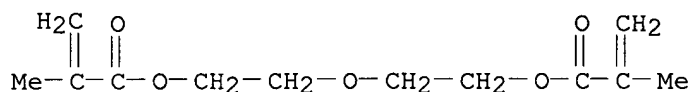
CCI PMS



CM 2

CRN 2358-84-1

CMF C12 H18 O5



L44 ANSWER 24 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:640772 HCAPLUS

DN 129:316628

TI Synthesis and radical polymerization of N-phthalimidomethyl acrylate

AU Mavlyanova, Kh. N.; Mavlanov, B. A.

CS Bukhar. Gos. Univ., Bukhara, Uzbekistan

SO Uzbekskaa Khimicheskii Zhurnal (1997), (4), 46-49

CODEN: UZKZAC; ISSN: 0042-1707

PB Fan

DT Journal

LA Russian

CC 35-4 (Chemistry of Synthetic High Polymers)

AB Radical polymn. of N-phthalimidomethyl acrylate was conducted in the presence of AIBN catalyst in different solvents and at different temps., and the kinetic characteristics of the process were detd.

ST kinetics radical polymn phthalimidomethyl acrylate

IT Polymerization kinetics

(radical; synthesis and radical polymn. of N-phthalimidomethyl acrylate)

IT Polymerization catalysts

(radical; synthesis and radical polymn. of N-phthalimidomethyl acrylate in presence of)

IT Activation energy

(synthesis and radical polymn. of N-phthalimidomethyl acrylate)

IT 40459-70-9P, N-Phthalimidomethyl acrylate

RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(synthesis and radical polymn. of N-phthalimidomethyl acrylate)

IT **214965-57-8P**, N-Phthalimidomethyl acrylate homopolymer

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**

(synthesis and radical polymn. of N-phthalimidomethyl acrylate)

IT 78-67-1, AIBN

RL: CAT (Catalyst use); USES (Uses)

(synthesis and radical polymn. of N-phthalimidomethyl acrylate in presence of)

IT **214965-57-8P**, N-Phthalimidomethyl acrylate homopolymer

RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**

(synthesis and radical polymn. of N-phthalimidomethyl acrylate)

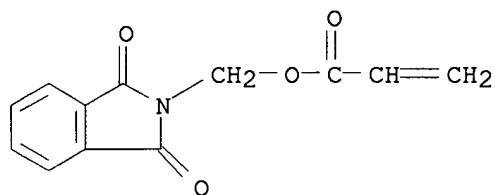
RN 214965-57-8 HCAPLUS

CN 2-Propenoic acid, (1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 40459-70-9

CMF C12 H9 N O4

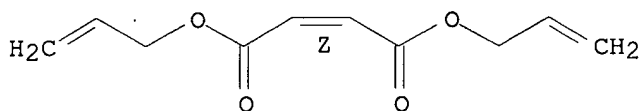


- L44 ANSWER 25 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1998:577031 HCAPLUS  
 DN 129:231060  
 TI Copolymerization behavior of diallyl maleate against acceptor-donor monomers  
 AU Krause, Thomas; Schmidt-Naake, Gudrun  
 CS Inst. Tech. Chem., Tech. Univ. Clausthal, Clausthal-Zellerfeld, D-38678, Germany  
 SO Angewandte Makromolekulare Chemie (1998), 258, 83-86  
 CODEN: ANMCBO; ISSN: 0003-3146  
 PB Huethig & Wepf Verlag  
 DT Journal  
 LA German  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 AB The copolymn. behavior of diallyl maleate (DAM) with Me methacrylate, N-phenylmaleimide, and styrene (S) in radical polymn. was studied under the aspect of interaction of monomers with high and low electron d. vinyl groups. The system DAM/S showed some indications for interaction. Generally, the strong control of degradative chain transfer could be recognized in polymn. A huge increase of the mol. mass is obsd. at low parts of DAM in the monomer compn.  
 ST polymn kinetics reactivity ratio diallyl maleate; styrene diallyl maleate polymn kinetics reactivity; phenylmaleimide diallyl maleate polymn kinetics reactivity; methacrylate diallyl maleate polymn kinetics reactivity  
 IT Reactivity ratio in polymerization  
 (and radical polymn. kinetics of diallyl maleate with acceptor-donor monomers)  
 IT Crosslinking enthalpy  
 (radical polymn. kinetics and reactivity ratios of diallyl maleate with acceptor-donor monomers)  
 IT Polymerization kinetics  
 (radical; and reactivity ratios of diallyl maleate with acceptor-donor monomers)  
 IT 80-62-6 100-42-5, reactions 941-69-5 999-21-3, Diallyl maleate  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (radical polymn. kinetics and reactivity ratios of diallyl maleate with acceptor-donor monomers)  
 IT 24980-53-8P, Diallyl maleate-styrene copolymer 26658-38-8P, Diallyl maleate-methyl methacrylate copolymer **212910-13-9P**, Diallyl maleate-N-phenylmaleimide copolymer  
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
 (radical polymn. kinetics and reactivity ratios of diallyl maleate with acceptor-donor monomers)

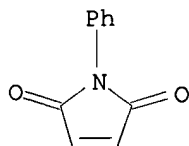


IT 212910-13-9P, Diallyl maleate-N-phenylmaleimide copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)  
(radical polymn. kinetics and reactivity ratios of  
diallyl maleate with acceptor-donor monomers)  
RN 212910-13-9 HCAPLUS  
CN 2-Butenedioic acid (2Z)-, di-2-propenyl ester, polymer with  
1-phenyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)  
CM 1  
CRN 999-21-3  
CMF C10 H12 O4

Double bond geometry as shown.



CM 2  
CRN 941-69-5  
CMF C10 H7 N O2



L44 ANSWER 26 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 1996:742407 HCAPLUS  
DN 126:75283  
TI Synthesis and polymerization of optically active itaconamate bearing an  
(R)-.alpha.-methylbenzyl group  
AU Oishi, Tsutomu; Kawamoto, Tetsuji; Tsutsumi, Hiromori  
CS Dep. of Applied Chemistry and Chemical Engineering, Yamaguchi Univ., Ube,  
755, Japan  
SO Polymer (1996), 37(24), 5513-5520  
CODEN: POLMAG; ISSN: 0032-3861  
PB Elsevier  
DT Journal  
LA English  
CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36  
AB Two types of optically active itaconamates, .alpha.-Et  
.beta.-N-((R)-.alpha.'-methylbenzyl)itaconamate (MBEI) and  
.alpha.-N-((R)-.alpha.'-methylbenzyl)-.beta.-Et itaconamate (EMBI) were  
synthesized from itaconic anhydride, (R)-.alpha.-methylbenzylamine and  
ethanol. Radical polymns. of MBEI and EMBI were performed in bulk and in  
several solvents at 50 to 130.degree.C. But only bulk polymn. gave

appreciably optically active polymers. It was found that MBEI has higher polymn. reactivity than EMBI. Radical copolymns. of MBEI (M1) (EMBI (M1)) were performed with styrene (ST, M2), Me methacrylate (MMA, M2), or N-phenylmaleimide (PhMI, M2) in benzene at 60.degree.C. The monomer reactivity ratios (r1,r2) and Alfrey-Price Q-e values were detd. as follows: r1 = 0.35, r2 = 0.14 (MBEI/ST), r1 = 0.03, r2 = 1.12 (EMBI/ST), r1 = 1.80, e = 0.94 for MBEI, Q = 0.21, e = 1.04 for EMBI. Chiroptical properties of homopolymers and copolymers were also investigated.

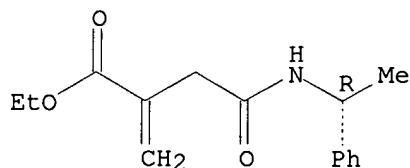
- ST polymn optically active itaconamate methylbenzyl group; methylbenzyl itaconamate polymer optical property; methylbenzylethyl itaconamate polymer optical property
- IT Q-e value in **polymerization**  
Reactivity ratio in **polymerization**  
(**radical**; synthesis and **polymn.** of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- IT Circular dichroism  
Optical properties  
(synthesis and polymn. of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- IT 80-62-6, Methyl methacrylate 100-42-5, Styrene, reactions 941-69-5, N-Phenylmaleimide 2170-03-8 3886-69-9, R-(.alpha.)-Methylbenzylamine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(synthesis and polymn. of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- IT 57718-07-7P, .beta.-Monoethyl itaconate 127566-69-2P 184763-31-3P 184763-38-0P 184763-48-2P 184763-52-8P 184763-60-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(synthesis and polymn. of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- IT 184763-70-0P 184763-80-2P 184763-88-0P 184763-94-8P  
**184764-02-1P** 184764-08-7P 184764-15-6P 184764-22-5P  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis and polymn. of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- IT **184764-02-1P**  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis and polymn. of optically active itaconamate bearing an (R)-.alpha.-methylbenzyl group)
- RN 184764-02-1 HCAPLUS
- CN Butanoic acid, 2-methylene-4-oxo-4-[(1-phenylethyl)amino]-, ethyl ester, (R)-, polymer with 1-phenyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

CM 1

CRN 184763-38-0

CMF C15 H19 N O3

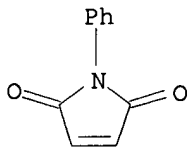
Absolute stereochemistry.



CM 2

CRN 941-69-5

CMF C10 H7 N O2



L44 ANSWER 27 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:737327 HCAPLUS

DN 126:135549

TI Polymer-drug conjugates: manipulating drug delivery kinetics using model LCST systems

AU Shah, S. S.; Wertheim, J.; Wang, C. T.; Pitt, C. G.

CS Amgen, Inc., Amgen Center, M/S 8-1-C, Thousand Oaks, USA

SO Journal of Controlled Release (1997), 45(1), 95-101

CODEN: JCREEC; ISSN: 0168-3659

PB Elsevier

DT Journal

LA English

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 35, 36

AB Model studies of the kinetics of hydrolysis of side chain substituted polymers exhibiting a lower crit. soln. temp. (LCST) were undertaken. Copolymers of N-isopropylacrylamide (NiPAm) and N-acryloyloxysuccinimide (AS) were prepd. by **radical polymn.** of the monomers or by reaction of isopropylamine with poly(AS). The LCSTs of the copolymers were measured by DSC and shown to depend on both the NiPAm/AS ratio and the copolymer microstructure. The kinetics of hydrolysis of the succinimide side chain were measured at temps. below, at, and above the LCST of the copolymers. The LCST increased on conversion of the acryloxy succinimide groups to acrylic acid groups during the hydrolysis process. At temps. below the LCST, the polymers were water sol. throughout the hydrolysis and exhibited first order kinetics. Above the LCST, the polymers were initially insol. but became sol. as hydrolysis caused a progressive increase in the LCST. The rate of hydrolysis accelerated on dissoln. As a result, the kinetics exhibited either a zero order or an S-shaped profile. In the latter case the initial slow phase was dependent on the difference between the reaction temp. and the initial LCST.

ST hydrolysis kinetics polyacrylamide deriv prepn; drug polymer conjugate hydrolysis

IT Critical solution temperature  
Hydrolysis kinetics

(prepn. and hydrolysis kinetics of polyacrylamides)

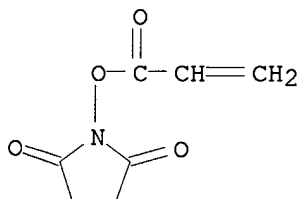
IT 75-31-ODP, Isopropylamine, reaction products with polyacryloyloxysuccinimide 37017-08-6DP, Poly(N-acryloyloxysuccinimide), reaction products with isopropylamine **71137-65-0P**, N-(Acryloyloxy)succinimide-N-isopropylacrylamide copolymerRL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**; THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation)**; RACT (Reactant or reagent); USES (Uses)

(prepn. and hydrolysis kinetics of polyacrylamides)  
IT 37017-08-6P, Poly(N-acryloxysuccinimide)  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and hydrolysis kinetics of polyacrylamides)  
IT **71137-65-0P**, N-(Acryloyloxy)succinimide-N-isopropylacrylamide  
copolymer  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; THU (Therapeutic use); BIOL (Biological study); **PREP**  
(Preparation); RACT (Reactant or reagent); USES (Uses)  
(prepn. and hydrolysis kinetics of polyacrylamides)  
RN 71137-65-0 HCAPLUS  
CN 2-Propenamide, N-(1-methylethyl)-, polymer with 1-[(1-oxo-2-propenyl)oxy]-  
2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

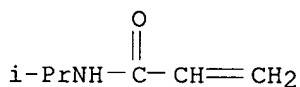
CMF C7 H7 N O4



CM 2

CRN 2210-25-5

CMF C6 H11 N O



L44 ANSWER 28 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 1996:238782 HCAPLUS  
DN 124:290357  
TI Radical-initiated copolymers of N-vinyl pyrrolidone and  
N-acryloxysuccinimide: kinetic and microstructure studies  
AU Erout, Marie-Noelle; Elaissari, Abdelhamid; Pichot, Christian; Llauro,  
Marie-France  
CS Unite mixte CNRS-Biomerieux, ENSL, Lyon, 69364, Fr.  
SO Polymer (1996), 37(7), 1157-65  
CODEN: POLMAG; ISSN: 0032-3861  
PB Elsevier  
DT Journal  
LA English  
CC 35-3 (Chemistry of Synthetic High Polymers)  
AB The kinetics of soln. copolymn. of N-vinylpyrrolidone (V) and

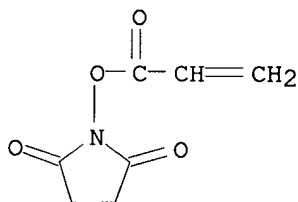
N-acryloxysuccinimide (A) were investigated at 60.degree. in DMF using 4,4'-azobis(4-cyanopentanoic acid) as initiator. The comonomer feed compn. was obsd. to have a strong effect on the overall copolymn. rate. Reactivity ratios were detd. and indicate a strong alternating tendency in the formed copolymer. Copolymers were then characterized to det. compn. (UV) and monomer sequence distribution (<sup>13</sup>C-NMR). The presence of a small fraction of VVA triads was clearly evidenced which was not expected from simulation based on a terminal kinetic model; the occurrence of a more complex model is discussed.

- ST vinylpyrrolidone acryloxysuccinimide polymn kinetics; structure  
vinylpyrrolidone acryloxysuccinimide polymer
- IT Reactivity ratio in polymerization  
(in radical copolymn. of vinylpyrrolidone with acryloxysuccinimide)
- IT Kinetics of polymerization  
(of radical copolymn. of vinylpyrrolidone with acryloxysuccinimide)
- IT **76702-33-5P**, N-Acryloxysuccinimide-N-vinylpyrrolidone copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**  
(compn. and structure of **radical polymd.**)
- IT 88-12-0, reactions 38862-24-7  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(kinetics of radical copolymn. of vinylpyrrolidone with acryloxysuccinimide)
- IT **76702-33-5P**, N-Acryloxysuccinimide-N-vinylpyrrolidone copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP (Preparation)**  
(compn. and structure of **radical polymd.**)
- RN 76702-33-5 HCAPLUS
- CN 2,5-Pyrrolidinedione, 1-[(1-oxo-2-propenyl)oxy]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

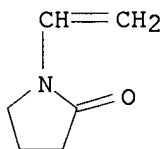
CMF C7 H7 N O4



CM 2

CRN 88-12-0

CMF C6 H9 N O



- L44 ANSWER 29 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1995:984279 HCAPLUS  
 DN 124:118066  
 TI Copolymerization of N-vinylphthalimide with acrylate and methacrylate monomers and preliminary analysis of the stereochemistry of poly(N-vinylphthalimide)  
 AU Trumbo, David L.  
 CS S. C. Johnson Polymer, S. C. Johnson & Son, Inc., Racine, WI, 53403-2236, USA  
 SO Polymer Bulletin (Berlin) (1995), 35(6), 665-70  
 CODEN: POBUDR; ISSN: 0170-0839  
 PB Springer  
 DT Journal  
 LA English  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 AB N-vinylphthalimide was copolymerized with Me methacrylate, iso-Bu methacrylate, or Bu acrylate. The polymers were initiated free radically and soln. polymerization was necessary to obtain sol. products. In most cases the polymers gave relatively high conversions in a short time, and high conversion methods were necessary to calculate the reactivity ratios. N-vinylphthalimide was the less reactive monomer in all cases. Poly(N-vinylphthalimide) homopolymer was also synthesized by free radical initiation. Whereas the <sup>1</sup>H-NMR spectrum gave little information concerning polymer stereochemistry, the methine carbon resonance in the <sup>13</sup>C-NMR spectrum displayed a sensitivity to polymer stereochemistry.  
 ST vinylphthalimide acrylate copolymer; methyl methacrylate vinylphthalimide copolymer; isobutyl methacrylate vinylphthalimide copolymer; butyl acrylate vinylphthalimide copolymer; reactivity ratio vinylphthalimide copolymer; phthalimide vinyl copolymer  
 IT Reactivity ratio in polymerization  
     (of vinylphthalimide with acrylates)  
 IT 26809-43-8P, N-Vinylphthalimide homopolymer  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
     (preparation by free radical soln. polymerization and stereochemistry of)  
 IT **173100-72-6P**, Methyl methacrylate-N-vinylphthalimide copolymer  
**173100-73-7P**, Isobutyl methacrylate-N-vinylphthalimide copolymer  
**173100-74-8P**, Butyl acrylate-N-vinylphthalimide copolymer  
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
     (preparation by free-radical soln. polymerization and properties of)  
 IT 3485-84-5, N-Vinylphthalimide  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
     (reactivity ratios in copolymerization with acrylates)  
 IT 80-62-6 97-86-9 141-32-2  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
     (reactivity ratios in copolymerization with vinylphthalimide)  
 IT **173100-72-6P**, Methyl methacrylate-N-vinylphthalimide copolymer  
**173100-73-7P**, Isobutyl methacrylate-N-vinylphthalimide copolymer

**173100-74-8P**, Butyl acrylate-N-vinylphthalimide copolymer

RL: PRP (Properties); **SPN (Synthetic preparation)**; **PREP**

**(Preparation)**

(prepn. by free-radical soln. polymn. and properties of)

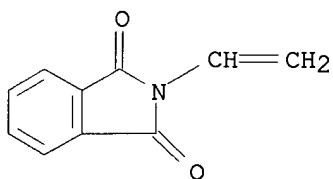
RN 173100-72-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
2-ethenyl-1H-isoindole-1,3(2H)-dione (9CI) (CA INDEX NAME)

CM 1

CRN 3485-84-5

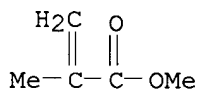
CMF C10 H7 N O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



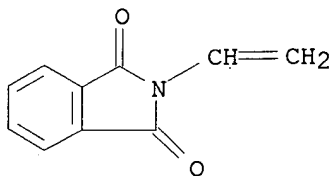
RN 173100-73-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, polymer with  
2-ethenyl-1H-isoindole-1,3(2H)-dione (9CI) (CA INDEX NAME)

CM 1

CRN 3485-84-5

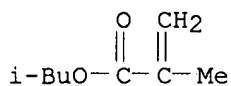
CMF C10 H7 N O2



CM 2

CRN 97-86-9

CMF C8 H14 O2



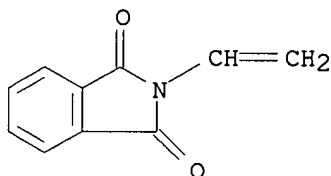
RN 173100-74-8 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2-ethenyl-1H-isoindole-1,3(2H)-dione (9CI) (CA INDEX NAME)

CM 1

CRN 3485-84-5

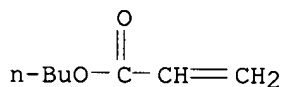
CMF C10 H7 N O2



CM 2

CRN 141-32-2

CMF C7 H12 O2



L44 ANSWER 30 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:642217 HCAPLUS

DN 123:56642

TI Polymerization reactivity and chiroptical property of N-maleoyl-L-phenylalanine cyclohexyl ester

AU Kagawa, Kensoh; Oishi, Tsutomu

CS Fac. Eng., Yamaguchi Univ., Yamaguchi, 755, Japan

SO Polymer Journal (Tokyo) (1995), 27(6), 579-90

CODEN: POLJB8; ISSN: 0032-3896

PB Society of Polymer Science, Japan

DT Journal

LA English

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 73

AB A new type of optically active N-maleoyl-L-phenylalanine cyclohexyl ester (CHPAM) was synthesized from maleic anhydride, L-phenylalanine, and cyclohexanol. Radical and anionic polymns. were carried out in several solvents at 60.degree. and 0.degree., resp., to obtain optically active homopolymers and copolymers. The no. av. mol. wt. (Mn) of the homopolymers was 4.4 .times. 10<sup>3</sup> to 1.5 .times. 10<sup>4</sup>. The specific optical



rotation ( $[\alpha]_D$ ) of the homopolymer was -69.7 to -65.9.degree.. Radical copolymns. of CHPAM (M1) were performed with styrene (ST) or Me methacrylate (MMA) in benzene at 60.degree.. The monomer reactivity ratios ( $r_1$ ,  $r_2$ ) and Alfrey-Price Q-e were detd. and are as follows:  $r_1 = 0.27$ ,  $r_2 = 0.11$ ,  $Q_1 = 2.00$ ,  $e_1 = 1.07$  in the CHPAM-ST system;  $r_1 = 0.07$ ,  $r_2 = 3.22$ ,  $Q_1 = 0.38$ ,  $e_1 = 1.63$  in the CHPAM-MMA system. The CD spectra of the copolymers varied remarkably with increasing content of CHPAM. Relationships between  $[\alpha]_D$  and content (wt%) of CHPAM in the copolymer showed significant deviation from linearity. This suggests that asym. perturbation of the side chain chromophore and asym. induction in the monomer unit of the copolymer may occur.

- ST maleoyl phenylalanine ester reactivity polymn chirality; styrene maleoyl phenylalanine ester polymn; methyl methacrylate maleoyl phenylalanine ester polymn
- IT Chirality  
Chromophores and Chromophoric systems  
Reactivity ratio in polymerization  
(polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT Optical activity  
(sequence-length dependence; polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT Polymerization  
(anionic, polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT Polymerization  
(co-, radical, polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT Polyesters, preparation  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyamide-, polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT Polyamides, preparation  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyester-, polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT 164660-97-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(model of polymer; polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT **164660-96-2P 164660-98-4P 164660-99-5P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT 80-62-6 100-42-5, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)
- IT 164660-95-1P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(prepn. and polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester)

IT 63-91-2, L-Phenylalanine, reactions 108-31-6, 2,5-Furandione, reactions 108-93-0, Cyclohexanol, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. and polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester)

IT 164660-96-2P 164660-98-4P 164660-99-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(polymn. reactivity of N-maleoyl-L-phenylalanine cyclohexyl ester in anionic and free radical polymns. to obtain chiroptical polymers)

RN 164660-96-2 HCAPLUS

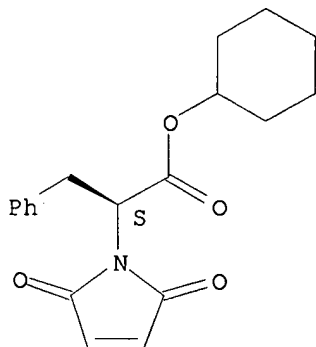
CN 1H-Pyrrole-1-acetic acid, 2,5-dihydro-2,5-dioxo-.alpha.-(phenylmethyl)-, cyclohexyl ester, (S)-, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 164660-95-1

CMF C19 H21 N O4

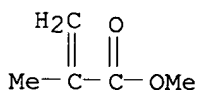
Absolute stereochemistry. Rotation (-).



CM 2

CRN 80-62-6

CMF C5 H8 O2



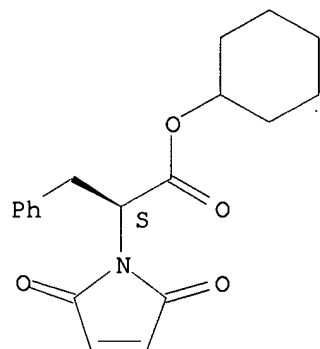
RN 164660-98-4 HCAPLUS

CN 1H-Pyrrole-1-acetic acid, 2,5-dihydro-2,5-dioxo-.alpha.-(phenylmethyl)-, cyclohexyl ester, (S)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 164660-95-1  
CMF C19 H21 N O4

Absolute stereochemistry. Rotation (-).

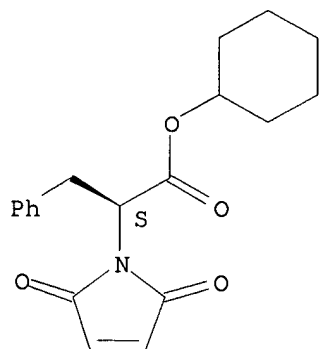


RN 164660-99-5 HCAPLUS  
CN 1H-Pyrrole-1-acetic acid, 2,5-dihydro-2,5-dioxo-.alpha.-(phenylmethyl)-, cyclohexyl ester, (S)-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 164660-95-1  
CMF C19 H21 N O4

Absolute stereochemistry. Rotation (-).



CM 2

CRN 100-42-5  
CMF C8 H8

$\text{H}_2\text{C}=\text{CH}-\text{Ph}$

L44 ANSWER 31 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 1995:573420 HCAPLUS  
DN 123:9966

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

- TI Synthesis and polymerization of N-[N'-(.alpha.-methylbenzyl)aminocarbonyl-n-alkyl]maleimide
- AU Oishi, Tsutomu; Kagawa, Kensoh; Fujimoto, Minoru
- CS Fac. Eng., Yamaguchi Univ., Yamaguchi, 755, Japan
- SO Journal of Polymer Science, Part A: Polymer Chemistry (1995), 33(8), 1341-52  
CODEN: JPACEC; ISSN: 0887-624X
- PB Wiley
- DT Journal
- LA English
- CC 35-2 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 73
- AB Two types of optically active N-[N'-(.alpha.-methylbenzyl)aminocarbonyl-n-alkyl]maleimides (MBAC) were synthesized from maleic anhydride, 6-amino-n-caproic acid (or 12-amino-n-dodecanoic acid), and (R)-(+)-.alpha.-methylbenzylamine. Radical homopolymns. of MBAC were performed in several solvents at 60.degree. and 110.degree. for 24 h to give optically active polymers. Radical copolymns. of MBAC were performed with styrene and Me methacrylate in dioxane at 60.degree.. The monomer reactivity ratios and Alfrey-Price Q-e values were detd. Chiroptical properties of the polymers and copolymers were investigated.
- ST methylbenzylamino carbonyl alkyl maleimide monomer; **radical polymn** maleimide deriv styrene; methyl methacrylate maleimide deriv copolymer; reactivity ratio maleimide deriv polymn; chiroptical property maleimide deriv polymer
- IT Q-e value in polymerization  
Reactivity ratio in polymerization  
(polymn. of methylbenzylaminocarbonylalkylmaleimide with styrene or Me methacrylate)
- IT Optical rotatory dispersion  
(synthesis and properties of methylbenzylaminocarbonylalkylmaleimide polymers)
- IT **Polymerization**  
(**radical**, synthesis and **polymn.** of methylbenzylaminocarbonylalkylmaleimides)
- IT 4887-54-1P, N-(5-Carboxy-n-pentyl)succinimide 85933-14-8P, N-(5-Carboxy-n-pentyl)succinamic acid 160363-04-2P, N-[5-(Chlorocarbonyl)-n-pentyl)succinimide 160363-06-4P, N-(11-Carboxy-n-undecyl)succinamic acid 160363-07-5P, N-(11-Carboxy-n-undecyl)succinimide  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; for prepn. of methylbenzylaminocarbonylalkylmaleimide polymer model compds.)
- IT 55750-53-3P, N-(5-Carboxy-n-pentyl)maleimide 57079-02-4P, N-(11-Carboxy-n-undecyl)maleimide 57079-14-8P, N-(5-Carboxy-n-pentyl)maleamic acid 57079-17-1P, N-(11-Carboxy-n-undecyl)maleamic acid 82333-93-5P, N-[(5-Chlorocarbonyl)-n-pentyl]maleimide  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis and polymn. of methylbenzylaminocarbonylalkylmaleimides)
- IT 163857-82-7P, N-[(N'-(R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl)succinimide 163857-84-9P, N-[(N'-(R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl)succinimide  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(model compd.; synthesis and polymn. of methylbenzylaminocarbonylalkylmaleimides)

- IT 80-62-6 100-42-5, reactions  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(monomer reactivity ratio in polymn. of methylbenzylaminocarbonylalkylmaleimide with styrene or Me methacrylate)
- IT 163857-81-6P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl]maleimide 163857-83-8P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl]maleimide  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)  
(monomer; synthesis and polymn. of methylbenzylaminocarbonylalkylmaleimides)
- IT 108-30-5, Succinic anhydride, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; for prepn. of methylbenzylaminocarbonylalkylmaleimide polymer model compds.)
- IT 60-32-2 108-31-6, 2,5-Furandione, reactions 693-57-2, 12-Aminododecanoic acid 3886-69-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(starting material; synthesis and polymn. of methylbenzylaminocarbonylalkylmaleimides)
- IT 618-36-ODP, .alpha.-Methylbenzylamine, reaction products with carboxyalkylmaleimide polymers and thionyl chloride 7719-09-7DP, Thionyl chloride, reaction products with carboxyalkylmaleimide polymers and methylbenzenylamine 7803-57-8DP, Hydrazine monohydrate, reaction products with methylbenzylaminocarbonylmethylmaleimide-styrene copolymer 59822-65-ODP, reaction products with thionyl chloride and methylbenzenylamine 115112-63-5DP, reaction products with thionyl chloride and methylbenzenylamine 115112-64-6DP, reaction products with thionyl chloride and methylbenzenylamine 144634-83-3DP, N-[N'-((R)-.alpha.-Methylbenzylaminocarbonyl)methyl]maleimide-styrene copolymer, reaction products with hydrazine monohydrate 163857-85-0P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl]maleimide homopolymer 163857-86-1P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl]maleimide homopolymer 163857-87-2P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl]maleimide-styrene copolymer **163857-88-3P**, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl]maleimide-methyl methacrylate copolymer 163857-89-4P, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl]maleimide-styrene copolymer **163857-90-7P**, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl]maleimide-methyl methacrylate copolymer 163857-91-8DP, N-(5-Carboxy-n-pentyl)maleimide-styrene copolymer, reaction products with thionyl chloride and methylbenzenylamine  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis and properties of methylbenzylaminocarbonylalkylmaleimide polymers)
- IT **163857-88-3P**, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-pentyl]maleimide-methyl methacrylate copolymer **163857-90-7P**, N-[N'-((R)-.alpha.-Methylbenzyl)aminocarbonyl-n-undecyl]maleimide-methyl methacrylate copolymer  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
(synthesis and properties of methylbenzylaminocarbonylalkylmaleimide polymers)
- RN 163857-88-3 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with

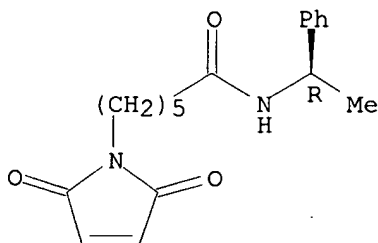
(R)-2,5-dihydro-2,5-dioxo-N-(1-phenylethyl)-1H-pyrrole-1-hexanamide (9CI)  
(CA INDEX NAME)

CM 1

CRN 163857-81-6

CMF C18 H22 N2 O3

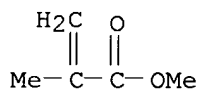
Absolute stereochemistry.



CM 2

CRN 80-62-6

CMF C5 H8 O2



RN 163857-90-7 HCAPLUS

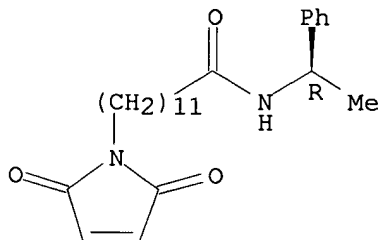
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
(R)-2,5-dihydro-2,5-dioxo-N-(1-phenylethyl)-1H-pyrrole-1-dodecanamide  
(9CI) (CA INDEX NAME)

CM 1

CRN 163857-83-8

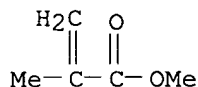
CMF C24 H34 N2 O3

Absolute stereochemistry.



CM 2

CRN 80-62-6  
CMF C5 H8 O2



L44 ANSWER 32 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:81618 HCAPLUS

DN 118:81618

TI Preparation of polymers bearing terminal functional groups

IN Matsunaga, Toshiaki; Yoshida, Masatoshi; Namura, Ichiro; Takei, Kazuo; Tamura, Fumihide

PA Nippon Shokubai Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F008-42

ICS C08F002-00

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04202504	A2	19920723	JP 1990-339708	19901130
PRAI	JP 1990-339708		19901130		
AB	The title polymers are prepd. by using a catalyst compn. contg. radical sources and metal compds. Thus, heating ethylene glycol monoacetate 229, Ce(NH4)2(NO3)6 32.9, and Bu acrylate 128 parts in EtOH at 53.degree. for 8 h gave 100% polymers having no.-av. mol. wt. 5100, and terminal functionality 1.3.				
ST	functionality vinyl polymer prepn; radical polymn catalyst vinyl monomer; butyl acrylate radical polymn catalyst				
IT	Naphthenic acids, compounds				
RL:	PREP (Preparation) (cobalt salts, polymn. catalysts contg. radical sources and, for prepn. of functional group-terminated vinyl polymers)				
IT	Polymerization catalysts (radical, metal compds. and radical sources, for prepn. of functional group-terminated vinyl polymers)				
IT	75-89-8 100-51-6, Benzyl alcohol, uses 107-57-3, 3-Chloro-2-hydroxypropylsulfonic acid 109-78-4, 2-Cyanoethanol 110-80-5, 2-Ethoxyethanol 116-09-6, Hydroxyacetone 141-43-5, Ethanolamine, uses 142-26-7, N-(2-Hydroxyethyl)acetamide 504-88-1, 3-Nitropropionic acid 542-59-6, Ethylene glycol monoacetate 1070-34-4, Succinic acid monoethyl ester 1854-30-4 26446-35-5, Glycerol monoacetate 131566-92-2				
RL:	USES (Uses) (polymn. catalysts contg. metal compds. and, for prepn. of functional group-terminated vinyl polymers)				
IT	1309-37-1, Ferric oxide, uses 1309-60-0, Lead(IV) oxide 1313-13-9, Manganese dioxide, uses 1313-96-8, Niobium pentoxide 1314-13-2, Zinc oxide, uses 1317-38-0, Copper monooxide, uses 1333-82-0, Chromium trioxide 13463-67-7, Titanium dioxide, uses 13530-56-8, Aluminum				

vanadium oxide (AlVO4) 18282-10-5, Tin dioxide

RL: USES (Uses)

(polymn. catalysts contg. radical sources and, for prepn. of functional group-terminated vinyl polymers)

IT 7637-03-8, Ammonium ceric sulfate 10139-51-2, Ammonium ceric nitrate 78435-71-9

RL: CAT (Catalyst use); USES (Uses)

(polymn. catalysts contg., for prepn. of functional group-terminated vinyl polymers)

IT 9003-01-4DP, Poly(acrylic acid), hydroxy-terminated 9003-21-8DP, Poly(methyl acrylate), carboxy-terminated 9003-32-1DP, Poly(ethyl acrylate), hydroxy-terminated 9003-49-0DP, Poly(butyl acrylate), hydroxy-terminated 9003-63-8DP, Poly(butyl methacrylate), hydroxy-terminated 9003-77-4DP, 2-Ethylhexyl acrylate polymer, hydroxy-terminated 9011-14-7DP, Methyl methacrylate polymer, amino-terminated 24980-62-9DP, Acrylonitrile-vinyl acetate copolymer, amino-terminated 25014-41-9DP, Polyacrylonitrile, carboxy-terminated 25085-00-1DP, Methyl methacrylate-vinyl acetate copolymer, hydroxy-terminated 25767-47-9DP, Butyl acrylate-styrene copolymer, hydroxy-terminated 25768-50-7DP, Cyclohexyl methacrylate homopolymer, amino-terminated 25852-37-3DP, Butyl acrylate-methyl methacrylate copolymer, hydroxy-terminated 28136-75-6DP, Ethyl acrylate-2-hydroxyethyl methacrylate copolymer, hydroxy-terminated **32554-23-7DP**, Methyl methacrylate-phenyl maleimide copolymer, hydroxy-terminated 35326-25-1DP, Acrylonitrile-butyl methacrylate-methyl methacrylate copolymer, hydroxy-terminated

RL: **PREP (Preparation)**

(prepn. of, **radical** sources and **polymn.** catalysts for)

IT **32554-23-7DP**, Methyl methacrylate-phenyl maleimide copolymer, hydroxy-terminated

RL: **PREP (Preparation)**

(prepn. of, **radical** sources and **polymn.** catalysts for)

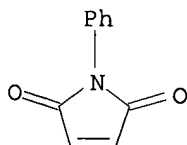
RN 32554-23-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1-phenyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)

CM 1

CRN 941-69-5

CMF C10 H7 N O2

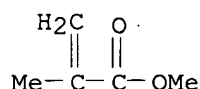


CM 2

CRN 80-62-6

CMF C5 H8 O2

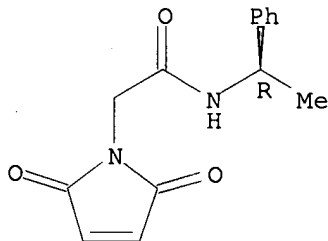




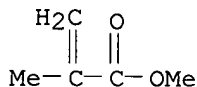
- L44 ANSWER 33 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1993:39478 HCAPLUS  
 DN 118:39478  
 TI Synthesis and polymerization of N-[[[N'-(.alpha.-methylbenzyl)amino]carbonyl]methyl]maleimide  
 AU Oishi, Tsutomu; Kagawa, Kensoh; Fujimoto, Minoru  
 CS Fac. Eng., Yamaguchi Univ., Ube, 755, Japan  
 SO Macromolecules (1993), 26(1), 24-9  
 CODEN: MAMOBX; ISSN: 0024-9297  
 DT Journal  
 LA English  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 AB Optically active N-[[[N'-(.alpha.-methylbenzyl)amino]carbonyl]methyl]maleimide (I) was synthesized from maleic anhydride, glycine, and (R)-(+)-.alpha.-methylbenzylamine. Radical homopolymns. of I were performed in several solvents at 70 and 150.degree. for 22 h to give optically active polymers having [.alpha.]<sub>25D</sub> = 50.3-62.5.degree..  
 Radical copolymns. of I were performed with styrene (II) and Me methacrylate (III) in dioxane at 70.degree..  
 The monomer reactivity ratios (r) and the Alfrey-Price Q and e values were r<sub>I</sub> = 0.083, r<sub>II</sub> = 0.30, Q<sub>I</sub> = 0.72, and e<sub>I</sub> = 1.12 for the I-II system and r<sub>I</sub> = 0.19, r<sub>III</sub> = 0.95, Q<sub>I</sub> = 1.32, and e<sub>I</sub> = 1.71 in the I-III system. Chiroptical properties of the polymers were also investigated.  
 ST maleimide deriv polymer optical activity; polymn reactivity maleimide deriv  
 IT Circular dichroism  
 (of methylbenzylaminocarbonylmethylmaleimide and its polymers)  
 IT Q-e value in **polymerization**  
 Reactivity ratio in **polymerization**  
 (**radical**, of methylbenzylaminocarbonylmethylmaleimide with styrene and Me methacrylate)  
 IT 3886-69-9, (R)-.alpha.-Methylbenzylamine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with chlorocarbonylmethylmaleimide)  
 IT 108-30-5, Succinic anhydride, reactions 108-31-6, Maleic anhydride, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with glycine)  
 IT 56-40-6, Glycine, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with maleic anhydride)  
 IT 80-62-6, Methyl methacrylate 100-42-5, Styrene, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (polymn. of, with methylbenzylaminocarbonylmethylmaleimide, reactivity ratio in radical)  
 IT 144634-81-1P 144634-82-2P 144634-83-3P **144667-09-4P**  
 RL: PRP (Properties); **SPN (Synthetic preparation); PREP (Preparation)**  
 (prepn. and CD spectra of)  
 IT 5626-41-5P, N-Glyciny succinimide 25021-08-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and acid chlorination of)  
IT 17686-36-1P 58142-32-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and amidation of)  
IT 5694-33-7P, N-Glycinylsuccinamic acid 54930-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and cyclization of)  
IT 144634-80-0P  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(prepn. and optical activity and **radical polymn.**  
of)  
IT **144667-09-4P**  
RL: PRP (Properties); **SPN (Synthetic preparation); PREP**  
**(Preparation)**  
(prepn. and CD spectra of)  
RN 144667-09-4 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
(R)-2,5-dihydro-2,5-dioxo-N-(1-phenylethyl)-1H-pyrrole-1-acetamide (9CI)  
(CA INDEX NAME)  
  
CM 1  
  
CRN 144634-80-0  
CMF C14 H14 N2 O3

Absolute stereochemistry.



CM 2  
  
CRN 80-62-6  
CMF C5 H8 O2



L44 ANSWER 34 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 1993:22734 HCAPLUS  
DN 118:22734  
TI Synthesis and properties of reactive supports based on unsaturated

activated esters

AU Chupov, V. V.; Lisovtseva, N. A.; Zvereva, G. F.; Noah, O. V.; Plate, N. A.

CS Russia

SO Vestnik Moskovskogo Universiteta, Seriya 2: Khimiya (1992), 33(3), 276-9  
CODEN: VMUKA5; ISSN: 0579-9384

DT Journal

LA Russian

CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38, 63

AB **Radical polymn.** of unsatd. activated esters (UAE) i.e. p-nitrophenyl acrylate, N-(acryloyloxyethyl)succinimide, and 2,2,3-trifluoropropyl acrylate, with acrylamide and tridecaethylene glycol dimethacrylate is studied. UAE act as self-inhibiting monomers and therefore the copolymers contain small amt. of their units. Even at low content of UAE, the copolymers are highly active chemisorbents for covalent immobilization of serum albumin.

ST serum albumin covalent immobilization polyacrylate; acrylamide copolymer serum albumin immobilization; ethanediol dimethacrylate copolymer immobilization; nitrophenyl acrylate copolymer albumin immobilization; acryloyloxysuccinimide copolymer albumin immobilization; fluoropropyl acrylate copolymer albumin immobilization; chemisorption polyacrylate serum albumin; chemisorbent polyacrylate serum albumin

IT Albumins, properties  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chemisorption of, by polyacrylates, effect of content of unsatd. activated ester units on)

IT Chemisorption  
Immobilization, biochemical  
(of serum albumin, by polyacrylates, effect of content of unsatd. activated ester units on)

IT Sorbents  
(chemi-, polyacrylates, for serum albumin, effect of content of unsatd. activated ester units on)

IT **Polymerization**  
(**radical**, three-dimensional, of acrylic monomers, prepn. of chemisorbents for serum albumin in relation to)

IT 124712-44-3P **145035-52-5P** 145035-54-7P  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. and chemisorption by, of serum albumin)

IT **145035-52-5P**  
RL: RCT (Reactant); **SPN (Synthetic preparation); PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. and chemisorption by, of serum albumin)

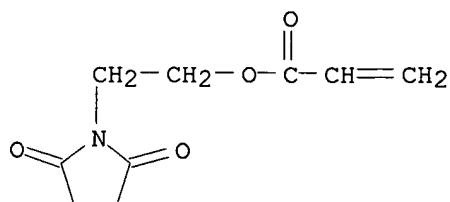
RN 145035-52-5 HCAPLUS

CN 2-Propenoic acid, 2-(2,5-dioxo-1-pyrrolidinyl)ethyl ester, polymer with .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 36431-63-7

CMF C9 H11 N O4

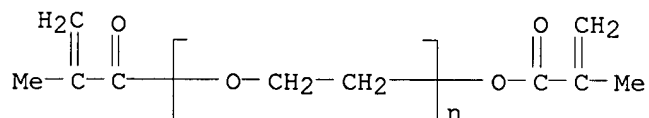


CM 2

CRN 25852-47-5

CMF (C2 H4 O)<sub>n</sub> C8 H10 O3

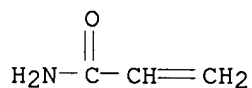
CCI PMS



CM 3

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 35 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1991:25295 HCAPLUS  
 DN 114:25295  
 TI Polymerizable fluorine-containing composition for biomedical use  
 IN Purbrick, Malcom Donald; Bowers, Roderick William Jonath; Wagner, Hans  
 Max; Bowen, Joanna  
 PA Kodak Ltd., UK; Eastman Kodak Co.  
 SO PCT Int. Appl., 18 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C08F220-00  
 ICS C08F220-22; C08F220-56  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 9, 34, 35, 38  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9007527	A1	19900712	WO 1990-GB13	19900104
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				

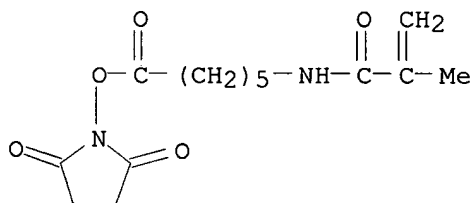
CA 2024102 AA 19900707 CA 1990-2024102 19900104  
EP 403638 A1 19901227 EP 1990-901626 19900104  
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE  
JP 03503182 T2 19910718 JP 1990-501512 19900104  
US 5086138 A 19920204 US 1990-571618 19900904  
PRAI GB 1989-250 19890106  
WO 1990-GB13 19900104  
AB A title compn. comprises an ethylenic diluent monomer(s) (some of which is preferably F-contg.); an ethylenic monomer contg. a reactive ester group capable of coupling with an amino compd. to form an amide link; and a (photo)polymn. initiator. The amino group-contg. compd. may be a protein. Thus, a mixt. of acrylamide 4.97 g, 2,2,2-trifluoromethylacrylamide 5.01, methacrylamidocaproic acid N-hydroxysuccinimido ester 2.96 g, AIBN 0.06 g, and DMF 30 mL was stirred at 60.degree. under N for 5 h; the viscous soln. was dild. with DMF and kept overnight; and the polymer (I) pptd. into Et2O. A coating soln. prepd. by dissolving I (10% wt./wt.) in DMF and glutaraldehyde (10% wt./wt., band on polymer) crosslinker was coated in a polyester (Ester) with a gravure roller at 1-2 m/min gave a wet laydown of 2.5 mLs/250 cm2. A sample of dried, crosslinkable content product was treated with a soln. of albumin and IR anal. indicating coupling at the active ester sites in I due to amide formation.  
ST acrylamide copolymer coating affinity chromatog; trifluoromethylacrylamide copolymer coating affinity chromatog; methylacrylamidocaproic hydroxysuccinimido ester copolymer; albumin coupling polymer amide formation; photopolymn catalyst acrylamide copolymer prepn  
IT Ligands  
RL: USES (Uses)  
(amino compds., immobilization of, polymerizable fluorine-contg. crosslinkable compns. for)  
IT Amines, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling of, with fluoro copolymers contg. reactive ester groups, immobilization by)  
IT Amides, preparation  
RL: FORM (Formation, nonpreparative)  
(formation of, in coupling of amines with fluoro polymer compns. for affinity chromatog.)  
IT Crosslinking agents  
(glutaraldehyde, by fluorine-contg. copolymer compns., for affinity chromatog.)  
IT Amino acids, uses and miscellaneous  
RL: USES (Uses)  
(immobilization of, fluorine-contg. polymerizable crosslinkable compns. for)  
IT Proteins, uses and miscellaneous  
RL: USES (Uses)  
(immobilization of, polymerizable fluorine-contg. crosslinkable compns. for)  
IT Peptides, preparation  
RL: PREP (Preparation)  
(prepn. of, amino acid immobilization in, fluorine-contg. polymerizable compns. for)  
IT Transparent materials  
(xerogel membranes for, photopolymd. fluorine-contg. copolymer compns. as)  
IT Chromatography, column and liquid  
(affinity, sepn. by, fluorine-contg. crosslinkable polymerizable compns. for)

- IT Gels  
(hydro-, hydrated membranes, from photopolymd. fluoropolymer compns.)
- IT Polymerization catalysts  
(photochem., for fluoro monomer-contg. crosslinkable compns., for xerogels)
- IT **Polymerization** catalysts  
(**radical**, in prepn. of fluoropolymer crosslinkable compns. for affinity chromatog.)
- IT Gels  
(xero-, membranes, photopolymd. fluoropolymer compns. as)
- IT 25038-59-9, uses and miscellaneous  
RL: USES (Uses)  
(film, xerogel-coated)
- IT 103-01-5, N-Phenylglycine 67135-48-2  
RL: USES (Uses)  
(initiators contg., for prepn. of fluorine-contg. crosslinked compns., for xerogels)
- IT **131231-41-9P**  
RL: **PREP (Preparation)**  
(prepn. of photopolymd., for xerogel membranes)
- IT **131212-63-0P**  
RL: **PREP (Preparation)**  
(prepn. of, catalyst for)
- IT **131212-64-1P**  
RL: **PREP (Preparation)**  
(prepn. of, coatings, albumin reaction with)
- IT **131231-41-9P**  
RL: **PREP (Preparation)**  
(prepn. of photopolymd., for xerogel membranes)
- RN 131231-41-9 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-2-methyl-2-propenamide, 2-hydroxypropyl 2-methyl-2-propenoate and 2-methyl-N-(2,2,2-trifluoroethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-55-7

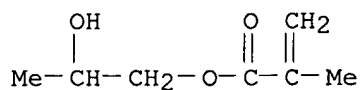
CMF C14 H20 N2 O5



CM 2

CRN 923-26-2

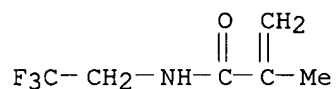
CMF C7 H12 O3



CM 3

CRN 372-50-9

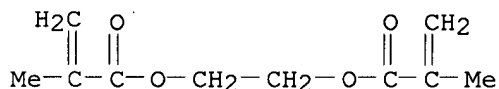
CMF C6 H8 F3 N O



CM 4

CRN 97-90-5

CMF C10 H14 O4



IT 131212-63-0P

RL: PREP (Preparation)

(prepn. of, catalyst for)

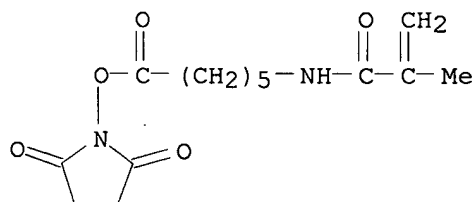
RN 131212-63-0 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-2-methyl-, polymer with 2-methyl-N-(2,2,2-trifluoroethyl)-2-propenamide and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-55-7

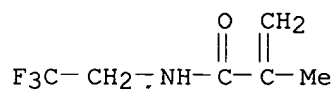
CMF C14 H20 N2 O5



CM 2

CRN 372-50-9

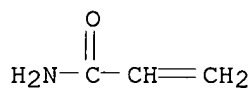
CMF C6 H8 F3 N O



CM 3

CRN 79-06-1

CMF C3 H5 N O



IT 131212-64-1P

RL: PREP (Preparation)

(prep'n. of, coatings, albumin reaction with)

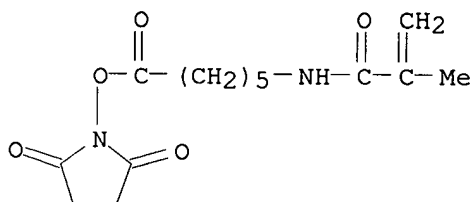
RN 131212-64-1 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyloxy]-6-oxohexyl]-2-methyl-, polymer with 2-methyl-N-(2,2,2-trifluoroethyl)-2-propenamide, pentanedial and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-55-7

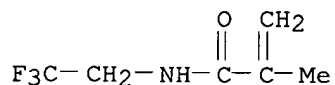
CMF C14 H20 N2 O5



CM 2

CRN 372-50-9

CMF C6 H8 F3 N O



CM 3

CRN 111-30-8



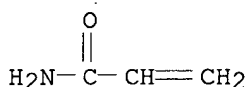
CMF C5 H8 O2

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

CM 4

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 36 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:159012 HCAPLUS

DN 112:159012

TI Preparation of a thermally phase-separating copolymer, poly(N-isopropylacrylamide-co-N-acryloxysuccinimide), with a controlled number of active esters per polymer chain

AU Yang, Heung Joon; Cole, Carole Ann; Monji, Nobuo; Hoffman, Allan S.

CS Cent. Bioeng., Univ. Washington, Seattle, WA, 98195, USA

SO Journal of Polymer Science, Part A: Polymer Chemistry (1990), 28(1), 219-26

CODEN: JPACEC; ISSN: 0887-624X

DT Journal

LA English

CC 35-3 (Chemistry of Synthetic High Polymers)

AB N-Isopropylacrylamide and N-acryloxysuccinimide were copolymerized in various mixts. of THF and PhMe using AIBN as initiator. Polymn. was conducted 24 h at 50.degree. under a slightly pos. pressure of N. The copolymers were assayed for active ester content by measuring the UV absorbance (259 nm) of N-hydroxysuccinimide anion, generated by reacting the copolymers with N-isopropylamine in DMF and dissolving the resulting mixt. in 0.1 M N-(2-hydroxyethyl)piperazine-N'-ethanesulfonic acid buffer, pH 7.5. Mol. wt. and its distribution were estd. by gel permeation chromatog. The active ester content was equiv. to the comonomer feed ratio, and the major factor controlling the mol. wt. was the THF-PhMe ratio. Thus, the no. of active esters per polymer chain could be controlled by adjustment of the comonomer feed ratio and the THF-PhMe ratio. Monomer reactivity ratios for the copolymer were also estd. The copolymers are useful for immobilizing binding ligands, such as antibodies, for subsequent thermally induced pptn. immunoassays and biosepn. processes.

ST acryloyloxysuccinimide isopropylacrylamide copolymer; reactivity **radical polymn**IT Reactivity ratio in **polymerization**

(radical, of acryloyloxysuccinimide with isopropylacrylamide, solvent control of product compn. in relation to)

IT 2210-25-5, N-Isopropylacrylamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymn. of, with acryloyloxysuccinimide, reactivity ratio and control of comonomer content in products from radical)

IT 38862-24-7, N-(Acryloyloxy)succinimide

RL: RCT (Reactant); RACT (Reactant or reagent)  
(polymn. of, with isopropylacrylamide, reactivity ratio and control of  
comonomer content in products from radical)

IT 71137-65-0P, N-(Acryloyloxy)succinimide-N-isopropylacrylamide  
copolymer

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, with controlled comonomer compn.)

IT 71137-65-0P, N-(Acryloyloxy)succinimide-N-isopropylacrylamide  
copolymer

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, with controlled comonomer compn.)

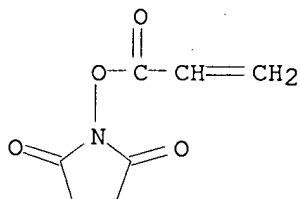
RN 71137-65-0 HCAPLUS

CN 2-Propenamide, N-(1-methylethyl)-, polymer with 1-[(1-oxo-2-propenyl)oxy]-  
2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

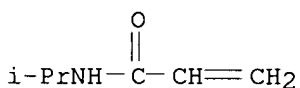
CMF C7 H7 N O4



CM 2

CRN 2210-25-5

CMF C6 H11 N O



L44 ANSWER 37 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:34234 HCAPLUS

DN 108:34234

TI N-isopropylacrylamide and N-acryloxysuccinimide copolymer. A thermally  
reversible, water-soluble, activated polymer for protein conjugation

AU Cole, Carol Ann; Schreiner, Sigrid M.; Priest, John H.; Monji, Nobuo;  
Hoffman, Allan S.

CS Genet. Syst. Corp., WA, 98121, USA

SO ACS Symposium Series (1987), 350(Reversible Polym. Gels Relat. Syst.),  
245-54

CODEN: ACSMC8; ISSN: 0097-6156

DT Journal

LA English

CC 9-1 (Biochemical Methods)

AB N-Isopropylacrylamide-N-acryloxysuccinimide copolymer was synthesized by

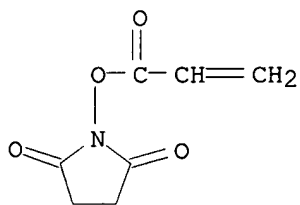
free **radical polymn.** in THF under anhyd. conditions with azobisisobutyronitrile as thermal initiator. The copolymer was conjugated with a monoclonal Ig and used in a fluorescence immunoassay for human IgG.

- ST isopropylacrylamide acryloxysuccinimide copolymer prepn; protein conjugation copolymer; monoclonal Ig conjugation copolymer; fluorescence immunoassay Ig copolymer
- IT Proteins, reactions  
RL: PRP (Properties)  
(conjugation of, to isopropylacrylamide-acryloxysuccinimide copolymer for immunoassay)
- IT Immunoglobulins  
RL: ANT (Analyte); ANST (Analytical study)  
(G, detn. of, of human by fluorescence immunoassay, monoclonal Ig conjugation to isopropylacrylamide-acryloxysuccinimide copolymer for)
- IT Immunochemical analysis  
(fluorescence immunoassay, for IgG of human, monoclonal Ig conjugation to isopropylacrylamide-acryloxysuccinimide copolymer for)
- IT Immunoglobulins  
RL: PRP (Properties)  
(monoclonal, conjugation of, to isopropylacrylamide-acryloxysuccinimide copolymer for immunoassay)
- IT 25189-55-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and copolymn. of)
- IT **71137-65-0P**  
RL: **PREP (Preparation)**  
(prepn. of and protein conjugation to, for immunoassay)
- IT **71137-65-0P**  
RL: **PREP (Preparation)**  
(prepn. of and protein conjugation to, for immunoassay)
- RN 71137-65-0 HCAPLUS
- CN 2-Propenamide, N-(1-methylethyl)-, polymer with 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

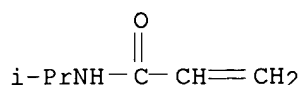
CMF C7 H7 N O4



CM 2

CRN 2210-25-5

CMF C6 H11 N O



L44 ANSWER 38 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:484579 HCAPLUS

DN 103:84579

TI Element for electrophoresis

IN Ogawa, Masashi; Shiraishi, Hisashi; Ikeda, Teppei

PA Fuji Photo Film Co., Ltd. , Japan

SO Eur. Pat. Appl., 34 pp.

CODEN: EPXXDW

DT Patent

LA English

IC G01N027-26

CC 9-1 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 126638	A2	19841128	EP 1984-303396	19840518
	EP 126638	A3	19860409		
	EP 126638	B1	19880504		
	R: CH, DE, FR, GB, LI, SE				
	JP 59212752	A2	19841201	JP 1983-87966	19830519
	US 4600641	A	19860715	US 1985-749125	19850626
PRAI	JP 1983-87966		19830519		
	US 1984-611591		19840518		

AB An element contg. (1) a support layer (e.g., plastic sheet), (2) a polymeric adhesive layer, and (3) a medium layer (e.g., polyacrylamide gel) is described for the sepn. of, e.g., proteins by slab electrophoresis. The element provides improved adhesion between the support and the gel and prevents sepn. of the gel from the support during staining and drying. The gel may contain, e.g., an anionic surfactant, oxidn. inhibitor, water-sol. polymer for elasticity, agarose to control viscosity, polyol wetting agent, etc. The gel is formed by **radical** crosslinking **polymn.** initiated by a peroxide and(or) UV irradiation. Thus, a copolymer of N-[[3-(2-chloroethylsulfonyl)propanamido)methyl]acrylamide and acrylamide was prep'd. and coated on a polyethylene terephthalate sheet, which had been made hydrophilic by UV irradiation, and dried at 110.degree. to form a .apprx.0.5-.mu.m-thick adhesive layer. On the adhesive layer was formed a polyacrylamide gel layer (0.5-mm-thick) that contained SDS, agarose, and polyacrylamide and that was polymd. with NH<sub>4</sub> peroxodisulfate and N,N,N',N'-tetramethylethylenediamine as polymn. initiators. Proteins were sepd. by electrophoresis on this element and stained with Coomassie Blue R 250. The gel membrane stayed attached to the support during the staining and drying procedures.

ST protein gel electrophoresis support app; adhesive polymer gel electrophoresis app

IT Alcohols, uses and miscellaneous

Ethers, uses and miscellaneous

Ketones, uses and miscellaneous

RL: SPN (Synthetic preparation); PREP (Preparation)

(as solvents, for polymeric adhesive layer prepn. for gel electrophoresis element)

IT Glass, oxide  
RL: ANST (Analytical study)  
(as support, for gel formation for electrophoresis)

IT Glycoproteins  
Lipoproteins  
Proteins  
RL: ANT (Analyte); ANST (Analytical study)  
(detection of, by polyacrylamide gel electrophoresis, multilayer element for)

IT Adhesives  
(polymeric, prepn. of, for gel electrophoresis element for protein sepn.)

IT Polymers, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, for gel electrophoresis element for protein sepn.)

IT Surfactants  
(anionic, in polyacrylamide gel layer, in electrophoresis element)

IT Electrophoresis and Ionophoresis  
(gel, app., with multilayer support element, for protein sepn. on polyacrylamide)

IT Alcohols, uses and miscellaneous  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(polyhydric, as wetting agents, for polyacrylamide gel prepn.)

IT 868-63-3 2274-11-5 16958-71-7 58477-85-3 60984-57-8 67132-53-0  
97802-30-7  
RL: ANST (Analytical study)  
(as crosslinking agent, for polyacrylamide gel prepn.)

IT 60-24-2 3483-12-3  
RL: ANST (Analytical study)  
(as oxidn. inhibitor, in gel electrophoresis element)

IT 64-17-5, uses and miscellaneous 67-56-1, uses and miscellaneous  
67-64-1, uses and miscellaneous 67-68-5, uses and miscellaneous  
68-12-2, uses and miscellaneous 78-93-3, uses and miscellaneous  
115-10-6 123-91-1, uses and miscellaneous  
RL: ANST (Analytical study)  
(as solvent, for polymeric adhesive layer prepn. for gel electrophoresis element)

IT 9002-86-2 9002-88-4 9003-07-0 9004-35-7 9004-39-1 9011-06-7  
9011-14-7 24936-68-3, analysis 25038-59-9, analysis  
RL: ANST (Analytical study)  
(as support, for gel formation for electrophoresis)

IT 56-81-5, uses and miscellaneous 107-21-1, uses and miscellaneous  
RL: ANST (Analytical study)  
(as wetting agent, for polyacrylamide gel prepn.)

IT 57-44-3 127-09-3 139-33-3 144-02-5 150-25-4 1333-73-9  
7558-79-4 7558-80-7 7647-01-0, uses and miscellaneous 7778-77-0  
11129-12-7 14265-44-2, uses and miscellaneous 16052-06-5 29915-38-6  
68399-78-0 81484-17-5 89648-37-3 91000-53-2 50-21-5, uses and  
miscellaneous 56-40-6, uses and miscellaneous 64-19-7, uses and  
miscellaneous 71-50-1, uses and miscellaneous 72-17-3 77-86-1  
77-92-9, uses and miscellaneous  
RL: ANST (Analytical study)  
(buffer contg., for gel electrophoresis)

IT 79-06-1, analysis 924-42-5 1187-59-3 2680-03-7 2873-97-4  
RL: ANST (Analytical study)  
(gel layer contg., in electrophoresis element)

IT 25231-54-3  
RL: ANST (Analytical study)

(in adhesive layer, in gel electrophoresis element)

IT 9003-05-8  
RL: ANST (Analytical study)  
(in gel layer, in electrophoresis element)

IT 151-21-3, analysis 7439-93-2D, alkyl sulfate salts 7440-09-7D, alkyl sulfate salts 7440-23-5D, alkyl sulfate salts 7664-93-9D, alkyl esters 9002-89-5 9003-39-8 9012-36-6 25322-68-3 25322-69-4  
RL: ANST (Analytical study)  
(in polyacrylamide gel layer, in electrophoresis element)

IT 83-88-5, uses and miscellaneous 110-18-9 1738-25-6 7722-84-1, uses and miscellaneous 7727-54-0  
RL: CAT (Catalyst use); USES (Uses)  
(polymn. catalysts contg., for polyacrylamide gel)

IT 85888-76-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and copolymn. of, with acrylamide)

IT 85899-15-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and copolymn. of, with monomers)

IT 85888-77-3P 85899-19-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

IT 95528-56-6P **97168-09-7P** 97746-50-4P 97746-52-6P  
97746-53-7P 97760-43-5P 97776-02-8P  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, as adhesive layer in gel electrophoresis element)

IT 4551-90-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (chloroethyl)sulfonylpropanol)

IT 818-61-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (chloroethylsulfonyl)propionyl chloride)

IT 110-26-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloroethanesulfonyl chloride)

IT 52352-11-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with chloroethylsulfonylpropionyl chloride)

IT 61515-41-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with hydroxyethyl acrylate)

IT 1622-32-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methylenebisacrylamide)

IT 67006-35-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with vinylbenzenesulfonate)

IT 61515-41-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with vinylbenzylamine)

IT **97168-09-7P**  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, as adhesive layer in gel electrophoresis element)

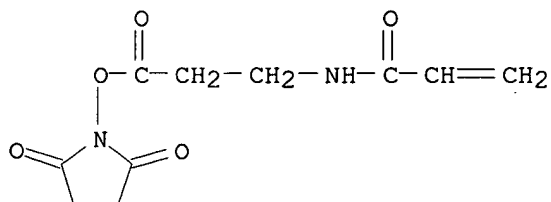
RN 97168-09-7 HCAPLUS

CN 2-Propenamide, N,N-dimethyl-, polymer with N-[3-[(2,5-dioxo-1-pyrrolidinyl)oxy]-3-oxopropyl]-2-propenamide and 2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 63406-06-4

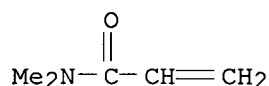
CMF C10 H12 N2 O5



CM 2

CRN 2680-03-7

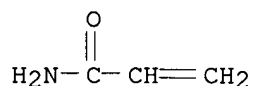
CMF C5 H9 N O



CM 3

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 39 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1982:611529 HCAPLUS

DN 97:211529

TI Studies of a new immobilized enzyme carrier, poly(N-.epsilon.-methacrylamide caproic ester)

AU Lu, Chengxun; Li, Dechang

CS Dep. Chem., Beijing Univ., Beijing, Peop. Rep. China

SO Gaofenzi Tongxun (1982), (2), 121-5

CODEN: KFTTAR; ISSN: 0453-2880

DT Journal

LA Chinese

CC 7-7 (Enzymes)

AB Poly(N-.epsilon.-methacrylamidocaproyloxy-5-norbornene-2,3-dicarboximide) was obtained by **radical polymn.** of the corresponding monomer, which was prepd. by coupling of .epsilon.-methacrylamidocaproic acid with N-hydroxy-5-norbornene-2,3-dicarboximide in the presence of dicyclohexylcarbodiimide. The polymer was a good carrier for the immobilization of trypsin. This immobilized trypsin had high enzymic

activity; .apprx.24% of the initial trypsin activity was recovered in the immobilized trypsin prepn.

ST enzyme immobilization polymethacrylamide caproic ester; trypsin immobilization polymethacrylamide caproic ester

IT 59178-92-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling of, with hydroxynorbornene dicarboximide)

IT 21715-90-2

RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling of, with methacrylamidocaproate)

IT 9002-07-7

RL: PROC (Process)  
(immobilization of, on poly(methacrylamide caproic ester))

IT 83778-76-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and polymn. of)

IT 83778-77-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and trypsin immobilization on)

IT 83778-77-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and trypsin immobilization on)

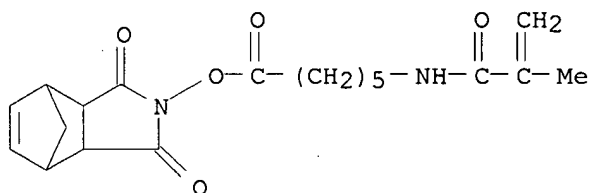
RN 83778-77-2 HCAPLUS

CN 2-Propenamide, N-[6-[(1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4,7-methano-2H-isoindol-2-yl)oxy]-6-oxohexyl]-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 83778-76-1

CMF C19 H24 N2 O5



L44 ANSWER 40 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1981:533819 HCAPLUS

DN 95:133819

TI Crosslinked polyfunctional copolymers

IN Makarov, K. A.; Pavlenko, N. M.; Pasternak, T. A.; Tereshchenko, G. P.

PA Leningrad First Medical Institute, USSR; All-Union Scientific-Research Institute of Wine Making and Vineyards "Magarach"

SO U.S.S.R.

From: Otkrytiya, Izobret., Prom. Obratzsy, Tovarnye Znaki 1981, (20), 108.  
CODEN: URXXAF

DT Patent

LA Russian

IC C08F222-40; C08F226-10; C08F220-56

CC 36-3 (Plastics Manufacture and Processing)



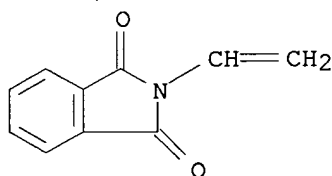
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	SU 833996	A1	19810530	SU 1978-2664076	19780913
PRAI	SU 1978-2664076		19780913		
AB	N-Vinylpyrrolidinone 13-35, acrylamide 8-43, and N-vinylphthalimide 22-79 parts are suspension polymd. in an aq. medium in the presence of 2.5-5.5 parts triethylene glycol dimethacrylate crosslinker, <b>radical polymn.</b> initiator, 10-15 parts Na2SO4, and a suspension stabilizer consisting of 2.5-4.0 parts poly(vinyl alc.) and 0.3-0.6 parts Na2HPO4 to give copolymer granules which are heated at 98-100.degree. with hydrazine hydrate and treated with acid then with alkali to give polymeric sorbents.				
ST	sorbent polymeric hydrazine deriv; vinylpyrrolidinone copolymer crosslinked sorbent; acrylamide copolymer crosslinked sorbent; vinylphthalimide copolymer crosslinked sorbent; triethylene glycol dimethacrylate copolymer sorbent				
IT	Sorbents (hydrazine derivs. of acrylamide-triethylene glycol dimethacrylate-vinylphthalimide-vinylpyrrolidinone copolymers)				
IT	Polymerization (suspension, of vinylpyrrolidinone with acrylamide, vinylphthalimide and triethylene glycol dimethacrylate)				
IT	302-01-2DP, reaction products with acrylamide-triethylene glycol dimethacrylate-vinylphthalimide-vinylpyrrolidinone copolymer <b>79267-37-1DP</b> , hydrazine derivs. RL: <b>PREP (Preparation)</b> (crosslinked, sorbents, manuf. of)				
IT	<b>79267-37-1DP</b> , hydrazine derivs. RL: <b>PREP (Preparation)</b> (crosslinked, sorbents, manuf. of)				
RN	79267-37-1 HCAPLUS				
CN	2-Propenoic acid, 2-methyl-, 1,2-ethanediylobis(oxy-2,1-ethanediy) ester, polymer with 2-ethenyl-1H-isoindole-1,3(2H)-dione, 1-ethenyl-2-pyrrolidinone and 2-propenamide (9CI) (CA INDEX NAME)				

CM 1

CRN 3485-84-5

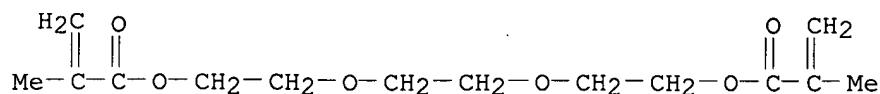
CMF C10 H7 N O2



CM 2

CRN 109-16-0

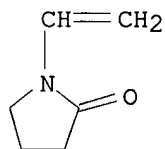
CMF C14 H22 O6



CM 3

CRN 88-12-0

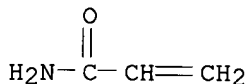
CMF C6 H9 N O



CM 4

CRN 79-06-1

CMF C3 H5 N O



L44 ANSWER 41 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1981:90348 HCAPLUS  
 DN 94:90348  
 TI Polymers containing prostaglandin radicals  
 IN Ferruti, Paolo; Paoletti, Rodolfo  
 PA Italy  
 SO U.S., 6 pp. Cont.-in-part of U.S. Ser. No. 620,401, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC A61K031-78  
 NCL 424081000  
 CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 36  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4228152	A	19801014	US 1978-960665	19781114
PRAI	IT 1975-28419		19751007		
	US 1975-620401		19751007		
AB	Pharmaceutical compns. of nontoxic polymers with a mol. wt. of 1000-1,500,000 contg. prostaglandin <b>radicals</b> bound to a <b>polymeric</b> matrix through covalent bonds of ester or amide type, with the polymers being gradually hydrolyzed in biol. systems, releasing predetd. amts. of prostaglandin over predetd. time intervals. Thus, a				

prepn. contg. 1-acryloylbenzotriazole-1-acryloyl-4-methylpiperazine copolymer reaction product with PGF2.alpha. (0.375 mg/kg) administered to cats resulted in a decrease in blood pressure equiv. to that obtained with the free prostaglandin (1 mg/kg).

ST polyacrylate prostaglandin compn; polymethacrylate prostaglandin compn; prostaglandin polymer compn

IT Polymers, biological studies

RL: BIOL (Biological study)  
(prostaglandin contg.)

IT 107-15-3DP, acryloylmethoxybenzothiazole copolymer, reaction products with PGF2.alpha. 107-21-1DP, acryloxysuccinamide polymers, reaction products with PGF2.alpha. **141-43-5DP**, acryloylmethoxybenzothiazole copolymer, reaction products with PGF2.alpha. 551-11-1DP, acrylate and methacrylate polymers 59816-76-1DP, reaction products with PGF2.alpha. 59816-77-2DP, reaction products with PGF2.alpha. 59816-81-8DP, reaction products with PGF2.alpha. 76642-32-5DP, ethanolamine deriv., reaction products with PGF2.alpha. 76642-34-7DP, ethylenediamine deriv., reaction products with PGF2.alpha. 76657-12-0DP, ethylenediamine deriv., reaction products with PGF2.alpha. **76702-33-5DP**, ethylene glycol deriv., reaction products with PGF2.alpha.

RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. and pharmacol. of)

IT **141-43-5DP**, acryloylmethoxybenzothiazole copolymer, reaction products with PGF2.alpha. **76702-33-5DP**, ethylene glycol deriv., reaction products with PGF2.alpha.

RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. and pharmacol. of)

RN 141-43-5 HCAPLUS

CN Ethanol, 2-amino- (8CI, 9CI) (CA INDEX NAME)

H<sub>2</sub>N-CH<sub>2</sub>-CH<sub>2</sub>-OH

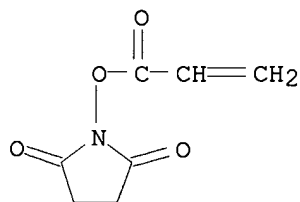
RN 76702-33-5 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(1-oxo-2-propenyl)oxy]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 38862-24-7

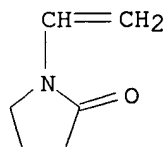
CMF C7 H7 N O4



CM 2

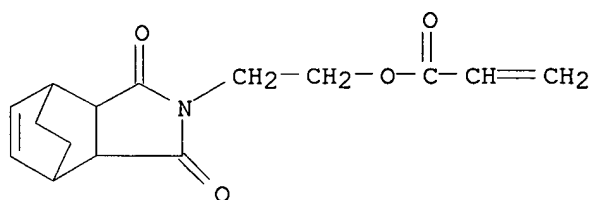
CRN 88-12-0

CMF C6 H9 N O



L44 ANSWER 42 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1981:31294 HCAPLUS  
 DN 94:31294  
 TI Styrene cooligomers  
 IN Naumova, S. F.; Maksimova, T. P.; Romanovskaya, L. P.  
 PA Institute of Physical-Organic Chemistry, Academy of Sciences, Belorussian  
 S.S.R., USSR  
 SO U.S.S.R.  
 CODEN: URXXAF  
 DT Patent  
 LA Russian  
 IC C08F212-08; C08F220-34  
 CC 35-3 (Synthetic High Polymers)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	SU 759532	T	19800830	SU 1978-2625783	19780607
PRAI	SU 1978-2625783		19780607		
AB	Oligomeric 30:70-70:30 N-(2-hydroxyethyl)-3,6-endoethylenetetrahydrophthalimide acrylate-styrene copolymer [75944-71-7] was prepd. by radical polymn. in the presence of an org. solvent and an initiator.				
ST	oligomerization styrene ethanotetrahydrophthalimidoethyl acrylate				
IT	Polymerization (oligomerization, radical, of (ethanotetrahydrophthalimido)ethyl acrylate with styrene)				
IT	<b>75944-71-7P</b> RL: IMF (Industrial manufacture); PREP (Preparation) (manuf. of oligomeric, by radical polymn.)				
IT	<b>75944-71-7P</b> RL: IMF (Industrial manufacture); PREP (Preparation) (manuf. of oligomeric, by radical polymn.)				
RN	75944-71-7 HCAPLUS				
CN	2-Propenoic acid, 2-(1,3,3a,4,7,7a-hexahydro-1,3-dioxo-4,7-ethano-2H-isoindol-2-yl)ethyl ester, polymer with ethenylbenzene (9CI) (CA INDEX NAME)				
CM	1				
CRN	51109-17-2				
CMF	C15 H17 N O4				



CM 2

CRN 100-42-5

CMF C8 H8

 $\text{H}_2\text{C}=\text{CH}-\text{Ph}$ 

L44 ANSWER 43 OF 43 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:60449 HCAPLUS

DN 84:60449

TI Mixed polymers of N-substituted acrylamides, N-substituted methylacrylamides, and N,N-disubstituted acrylamides

IN Kopecek, Jindrich; Ulbrich, Karel; Vacik, Jiri; Strohalm, Jiri; Chytry, Vladimir; Drobnik, Jaroslav; Kalal, Jaroslav

PA Ceskoslovenska Akademie Ved, Czech.

SO Ger. Offen., 28 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C08F

CC 36-3 (Plastics Manufacture and Processing)

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2517511	A1	19751113	DE 1975-2517511	19750421
	CS 173846	B	19770331	CS 1974-2879	19740423
PRAI	CS 1974-2879		19740423		

AB Copolymers of N-(2-hydroxypropyl)methacrylamide (I) and nitrophenyl ester (II) of N-methacryloylglycylglycine, I and p-acetaminophenylmethacrylamide, I and N-hydroxysuccinimide ester of .epsilon.-aminocaproic acid, I, II, and ethylene glycol dimethacrylate, or similar compds. were prepd. by free **radical polymn.** in a precipitant. The copolymers contained reactive groups and were useful as membranes or packing materials for chromatog., for the prepn. of copolymers contg. bound biol. active materials such as enzymes, etc. Thus, a mixt. of I 3, II 0.35, AIBN 0.34, and acetone 35.5 g was polymd. 8 hr at 50.degree. to give 72% copolymer [57950-81-9].

ST acrylamide copolymer reactive group; methacrylamide copolymer reactive group; polymn acrylamide deriv precipitant; pharmaceutical acrylamide copolymer; chromatog acrylamide copolymer

IT Cation exchangers  
Membranes

(acrylic amide polymers)

IT Chromatography, column and liquid

(packing materials for, acrylic amide polyers as)

IT **Polymerization**

(radical, of acrylamide derivs., in precipitant)

IT 57950-54-6P **57950-56-8P** 57950-58-0P 57950-60-4P  
**57950-61-5P** 57950-63-7P 57950-65-9P 57950-66-0P  
**57950-68-2P** 57950-70-6P **57950-72-8P** 57950-74-0P  
 57950-76-2P 57950-77-3P 57950-78-4P 57950-80-8P 57950-81-9P  
**57982-57-7P** 57982-59-9P

RL: **PREP (Preparation)**

(manuf. of, in precipitant)

IT **57950-56-8P 57950-61-5P 57950-68-2P**  
**57950-72-8P 57982-57-7P**

RL: **PREP (Preparation)**

(manuf. of, in precipitant)

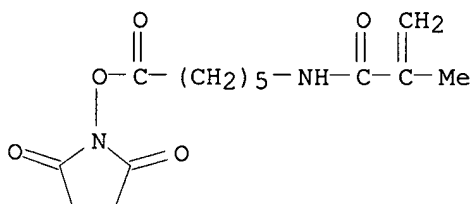
RN 57950-56-8 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-2-methyl-,  
 polymer with N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX  
 NAME)

CM 1

CRN 57950-55-7

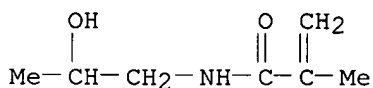
CMF C14 H20 N2 O5



CM 2

CRN 21442-01-3

CMF C7 H13 N O2



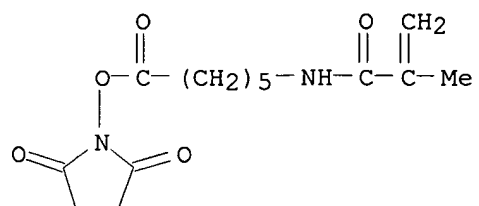
RN 57950-61-5 HCAPLUS

CN 2-Propenamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-2-methyl-,  
 polymer with N-ethyl-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-55-7

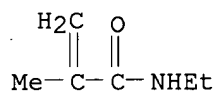
CMF C14 H20 N2 O5



CM 2

CRN 7370-88-9

CMF C6 H11 N O



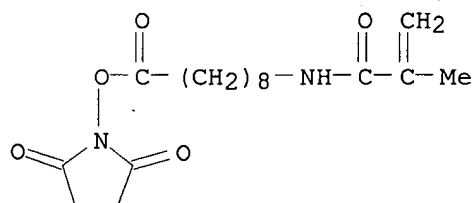
RN 57950-68-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediyl) ester, polymer with N-[9-[(2,5-dioxo-1-pyrrolidinyl)oxy]-9-oxononyl]-2-methyl-2-propenamide and N-(2-hydroxypropyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-67-1

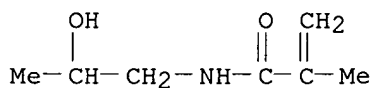
CMF C17 H26 N2 O5



CM 2

CRN 21442-01-3

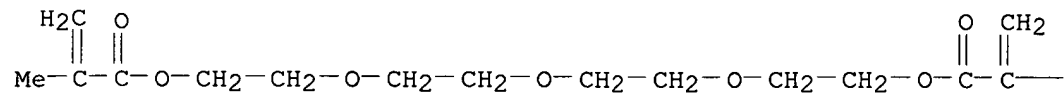
CMF C7 H13 N O2



CM 3

CRN 109-17-1  
CMF C16 H26 O7

PAGE 1-A



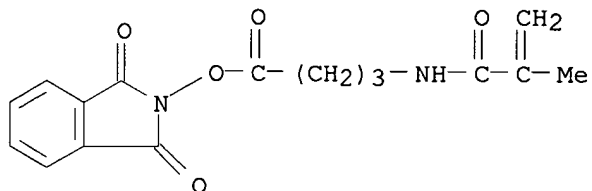
PAGE 1-B

— Me

RN 57950-72-8 HCAPLUS  
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with  
N-[4-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)oxy]-4-oxobutyl]-2-methyl-2-  
propenamide and N-ethyl-2-propenamide (9CI) (CA INDEX NAME)

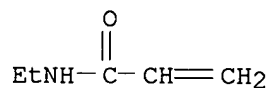
CM 1

CRN 57950-71-7  
CMF C16 H16 N2 O5



CM 2

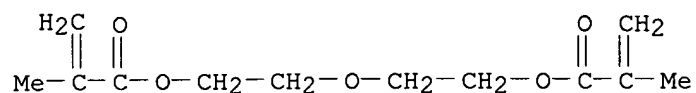
CRN 5883-17-0  
CMF C5 H9 N O



CM 3

CRN 2358-84-1  
CMF C12 H18 O5





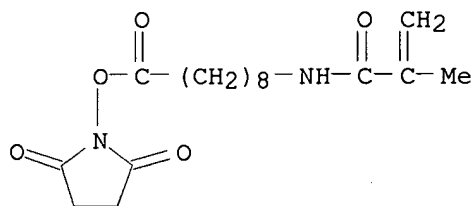
RN 57982-57-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxybis(2,1-ethanediylloxy-2,1-ethanediyl) ester, polymer with N-butyl-2-propenamide, N-[9-[(2,5-dioxo-1-pyrrolidinyl)oxy]-9-oxononyl]-2-methyl-2-propenamide and N-ethyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 57950-67-1

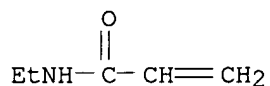
CMF C17 H26 N2 O5



CM 2

CRN 5883-17-0

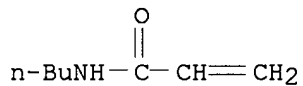
CMF C5 H9 N O



CM 3

CRN 2565-18-6

CMF C7 H13 N O

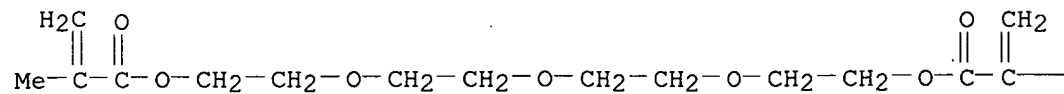


CM 4

CRN 109-17-1

CMF C16 H26 O7

PAGE 1-A



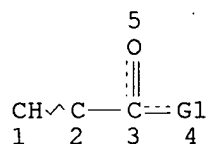
PAGE 1-B

— Me

=&gt; D QUE

L3

STR



VAR G1=X/O

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

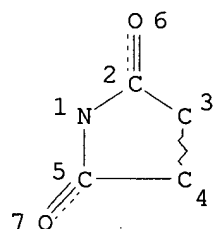
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NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L4

STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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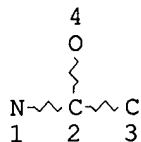
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L6

SCR 2043

L8 6511 SEA FILE=REGISTRY SSS FUL L3 AND L4 AND L6  
 L9 3655 SEA FILE=HCAPLUS ABB=ON L8  
 L10 2168 SEA FILE=HCAPLUS ABB=ON L9(L) (PREP OR IMF OR SPN)/RL  
 L11 16 SEA FILE=HCAPLUS ABB=ON L10(L) RADICAL?(L) POLYMERI?  
 L12 STR



NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L14 660 SEA FILE=REGISTRY SUB=L8 SSS FUL L12  
 L15 560 SEA FILE=HCAPLUS ABB=ON L14  
 L17 351 SEA FILE=HCAPLUS ABB=ON L15(L) (PREP OR IMF OR SPN)/RL  
 L18 25 SEA FILE=HCAPLUS ABB=ON L17 AND RADICAL?(5A) POLYMERI?  
 L21 1 SEA FILE=REGISTRY ABB=ON 78-96-6  
 L22 1 SEA FILE=REGISTRY ABB=ON 141-43-5  
 L23 1 SEA FILE=REGISTRY ABB=ON 616-34-2  
 L24 1 SEA FILE=REGISTRY ABB=ON 37047-90-8  
 L25 1 SEA FILE=REGISTRY ABB=ON 74815-54-6  
 L26 5 SEA FILE=REGISTRY ABB=ON (L21 OR L22 OR L23 OR L24 OR L25)  
 L27 4 SEA FILE=REGISTRY ABB=ON L26 NOT 1/NR  
 L28 855 SEA FILE=HCAPLUS ABB=ON L27/DP  
 L32 16 SEA FILE=HCAPLUS ABB=ON L10 AND L28  
 L33 3 SEA FILE=HCAPLUS ABB=ON L32 AND RADICAL?(5A) POLYMERI?  
 L34 42 SEA FILE=HCAPLUS ABB=ON L11 OR L18 OR L33  
 L35 1 SEA FILE=REGISTRY ABB=ON 920-46-7  
 L36 1 SEA FILE=REGISTRY ABB=ON 6066-82-6  
 L37 3330 SEA FILE=HCAPLUS ABB=ON L35  
 L38 3388 SEA FILE=HCAPLUS ABB=ON L36  
 L39 2861 SEA FILE=HCAPLUS ABB=ON L37(L) (RACT OR RCT)/RL  
 L40 2900 SEA FILE=HCAPLUS ABB=ON L38(L) (RACT OR RCT)/RL  
 L41 25 SEA FILE=HCAPLUS ABB=ON L39 AND L40  
 L43 4 SEA FILE=HCAPLUS ABB=ON L41 AND RADICAL?(5A) POLYMERI?  
 L44 43 SEA FILE=HCAPLUS ABB=ON L34 OR L43  
 L45 66 SEA FILE=REGISTRY ABB=ON 38862-25-8/CRN  
 L46 44 SEA FILE=HCAPLUS ABB=ON L45  
 L47 28 SEA FILE=HCAPLUS ABB=ON L46(L) (PREP OR IMF OR SPN)/RL  
 L50 3 SEA FILE=HCAPLUS ABB=ON L39 AND L47  
 L52 9 SEA FILE=HCAPLUS ABB=ON L47 AND RADICAL?(L) POLYMERI?  
 L53 8 SEA FILE=HCAPLUS ABB=ON (L44 OR L50 OR L52) NOT L44

=> D L53 1-8 BIB ABS HITIND HITSTR

L53 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN  
 AN 2000:725683 HCAPLUS  
 DN 133:310953

TI Fluorinated copolymers for coating biomedical devices and a process for their manufacture  
 IN Schacht, Etienne Honore; Verweire, Ineke  
 PA Universiteit Gent, Belg.  
 SO PCT Int. Appl., 53 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000059963	A1	20001012	WO 2000-EP2733	20000329
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1171490	A1	20020116	EP 2000-920607	20000329
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	EP 1999-870063	A	19990331		
	WO 2000-EP2733	W	20000329		
AB	Copolymers are manufd. comprising moieties derived from .gtoreq.1 of CH <sub>2</sub> CXCO <sub>2</sub> CH <sub>2</sub> Y(CF <sub>2</sub> ) <sub>n</sub> CF <sub>2</sub> Z (I, X = H or Me, Y = single bond, CH <sub>2</sub> NRSO <sub>2</sub> , or NRSO <sub>2</sub> , R = C1-6 alkyl, Z = H or F, n = 0-12) and moieties derived from .gtoreq. nonfluorinated comonomer, the glass transition temp. of the homopolymer of comonomer being lower than the glass transition temp. of the homopolymer of I. A layer of such a copolymer, optionally further comprising a biol. effective amt. of at least one biol. active ingredient, is useful for coating a biomedical device such as a catheter or a stent. A typical copolymer was manufd. by <b>radical polymn.</b> of 10 g 2,2,3,3,4,4,5,5-octafluoropentyl methacrylate with 2.05 g 2-ethylhexyl acrylate.				
IC	ICM C08F220-22				
	ICS C08F297-02; A61L031-10; A61L029-08; A61L027-34; A61K009-00				
CC	42-10 (Coatings, Inks, and Related Products)				
	Section cross-reference(s): 35, 63				
IT	355-93-1P, 2,2,3,3,4,4,5,5-Octafluoropentyl methacrylate				
	<b>301805-79-8P</b>				
	RL: <b>IMF (Industrial manufacture)</b> ; RCT (Reactant); <b>PREP (Preparation)</b> ; RACT (Reactant or reagent) (acrylic fluoropolymers for coating biomedical devices)				
IT	80506-64-5DP, Polyethylene glycol 2-aminoethyl methyl ether, reaction products with ethylhexyl acrylate-octafluoropentyl methacrylate-succinimidyl methacrylate copolymer 301805-74-3P 301805-75-4P 301805-76-5P 301805-77-6P 301805-78-7P <b>301805-79-8DP</b> , reaction products with polyethylene glycol aminoethyl Me ether 301805-81-2DP, Me ethers 301805-82-3P				
	RL: <b>IMF (Industrial manufacture)</b> ; TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); <b>PREP (Preparation)</b> ; USES (Uses) (acrylic fluoropolymers for coating biomedical devices)				
IT	<b>301805-79-8P</b>				
	RL: <b>IMF (Industrial manufacture)</b> ; RCT (Reactant); <b>PREP</b>				

**(Preparation);** RACT (Reactant or reagent)

(acrylic fluoropolymers for coating biomedical devices)

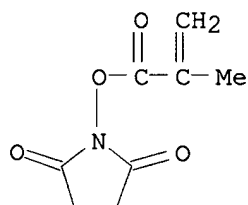
RN 301805-79-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5-octafluoropentyl ester, polymer with 2-ethylhexyl 2-propenoate and 1-[(2-methyl-1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

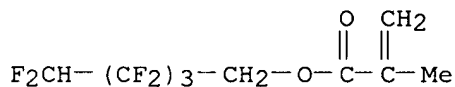
CMF C8 H9 N O4



CM 2

CRN 355-93-1

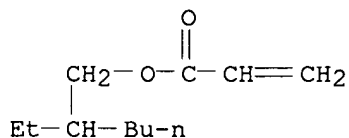
CMF C9 H8 F8 O2



CM 3

CRN 103-11-7

CMF C11 H20 O2



IT 301805-79-8DP, reaction products with polyethylene glycol aminoethyl Me ether

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); **PREP (Preparation);** USES (Uses)

(acrylic fluoropolymers for coating biomedical devices)

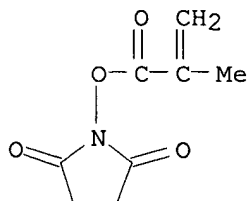
RN 301805-79-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5-octafluoropentyl ester, polymer with 2-ethylhexyl 2-propenoate and 1-[(2-methyl-1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

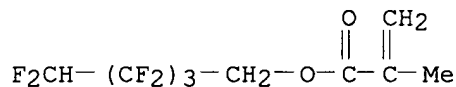
CMF C8 H9 N O4



CM 2

CRN 355-93-1

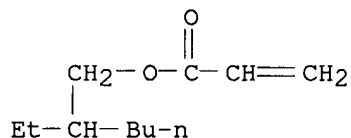
CMF C9 H8 F8 O2



CM 3

CRN 103-11-7

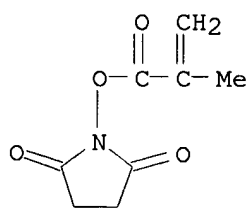
CMF C11 H20 O2



RE.CNT 5      THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 2000:208538 HCAPLUS  
DN 133:48789  
TI Synthesis of a polymeric precursor by ATRP for conversion to polymer-drug  
conjugates  
AU Godwin, A.; Hartenstein, M.; Muller, A. H. E.; Brocchini, S.  
CS Centre for Polymer Therapeutics, The School of Pharmacy, University of  
London, London, WC1N 1AX, UK  
SO Polymer Preprints (American Chemical Society, Division of Polymer  
Chemistry) (2000), 41(1), 1002-1003  
CODEN: ACPPAY; ISSN: 0032-3934  
PB American Chemical Society, Division of Polymer Chemistry  
DT Journal

LA English  
AB An active ester **polymeric** precursor, poly(methacryloxy succinimide), with narrow mol. wt. distribution (PD = 1.1-1.3) was prepd. by atom transfer **radical polymn.** (ATRP). Subsequent reaction of the precursor with 1-amino-2-propanol gave the poly(meth)acrylamide, HPMA homopolymer. The precursor was designed to provide a wide range of water sol. polymer-drug conjugates for study that have the same mol. wt. characteristics. The strategy may also have potential for the general prepn. of narrow mol. wt. poly(meth)acrylamide.  
CC 63-5 (Pharmaceuticals)  
Section cross-reference(s): 38  
IT **37047-90-8P**, Poly(N-methacryloxysuccinimide)  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; **PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. of polymeric precursor by ATRP for conversion to polymer-drug conjugates)  
IT **37047-90-8P**, Poly(N-methacryloxysuccinimide)  
RL: PRP (Properties); RCT (Reactant); **SPN (Synthetic preparation)**  
; **PREP (Preparation)**; RACT (Reactant or reagent)  
(prepn. of polymeric precursor by ATRP for conversion to polymer-drug conjugates)  
RN 37047-90-8 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 38862-25-8  
CMF C8 H9 N O4



RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN  
AN 1992:106885 HCAPLUS  
DN 116:106885  
TI Copolymerizations of N-vinylpyrrolidone and activated esters of unsaturated acids  
AU Nazarova, O. V.; Solovskii, M. V.; Panarin, E. F.; Denisov, V. M.; Khachaturov, A. S.; Kol'tsov, A. I.; Purkina, A. V.  
CS Inst. Macromol. Compd., Leningrad, 199004, USSR  
SO European Polymer Journal (1992), 28(1), 97-100  
CODEN: EUPJAG; ISSN: 0014-3057  
DT Journal  
LA English  
AB The radical copolymns. of N-vinylpyrrolidone with N-hydroxyphthalimide and N-hydroxysuccinimide esters of acrylic, methacrylic, and crotonic acids were studied. Reactivity ratios were detd. By varying the acid component

of the monomeric ester, it was possible to obtain reactive copolymers greatly differing in structure.

CC 35-3 (Chemistry of Synthetic High Polymers)

IT **Polymerization**

Reactivity ratio in **polymerization**

(**radical**, of vinylpyrrolidone with hydroxyphthalimide and hydroxysuccinimide esters of (meth)acrylic and crotonic acids)

IT 88-12-0, N-Vinylpyrrolidone, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(**polymn.** of, with hydroxyphthalimide and hydroxysuccinimide esters of (meth)acrylic and crotonic acids, reactivity ratios in **radical**)

IT 38862-24-7 55484-53-2 72299-96-8 84379-73-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(**polymn.** of, with vinylpyrrolidone, reactivity ratios in **radical**)

IT 37017-08-6P 37047-90-8P 76702-33-5P 130171-83-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and carbon-13 NMR spectra of)

IT 37047-90-8P 130171-83-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and carbon-13 NMR spectra of)

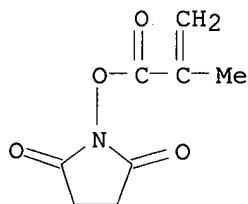
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4



RN 130171-83-4 HCAPLUS

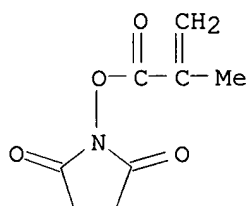
CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 1-ethenyl-2-pyrrolidinone (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4

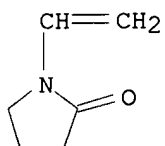




CM 2

CRN 88-12-0

CMF C6 H9 N O



L53 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:595603 HCAPLUS

DN 111:195603

TI Manufacture of polymer microparticles having optical functional groups

IN Yoshida, Masaru; Asano, Masaharu; Kaetsu, Isao; Ichikawa, Tetsuya

PA Nippon Atomic Industry Group Co., Ltd., Japan; Kokusan Chemical Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01033111	A2	19890203	JP 1987-191016	19870730
PRAI	JP 1987-191016		19870730		

AB The title polymers capable of reacting with amines or amino acids in mild conditions and useful for agricultural, industrial, and medical applications are prepd. by **radical** or radiochem. **polymn** of 50-99.5% functional group-contg. monomers with 0.5-50% diethylene glycol (I) di(meth)acrylate. Irradn. of 5 g 30:70 N-acryloyloxysuccinimide (II)-I dimethylacrylate in 95 g CH(OMe)<sub>3</sub> by .gamma.-rays at 25.degree. under N gave particles having av. diam. 1.14 .+- 0.37 .mu.m, and II component 29%. This polymer (1 g) was reacted with 5 g ethylene diamine in 100 mL water (pH = 8.5) at 25.degree. for 4 h to give a copolymer having succinimide group 180 .mu.mol/g.

IC ICM C08F220-26

ICS C08F002-06; C08F002-54; C08F008-32

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 63

IT **Polymerization**

(**radical**, of diethylene glycol di(meth)acrylate with functional group-contg. (meth)acrylates)

IT **112310-76-6P** 123535-40-0P 123535-41-1P 123535-43-3P

123535-44-4P 123535-45-5P 123535-46-6P 123535-47-7P

RL: RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)

(prepn. and reaction of, with diamines or amino acids)

IT **112310-76-6P**RL: RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)

(prepn. and reaction of, with diamines or amino acids)

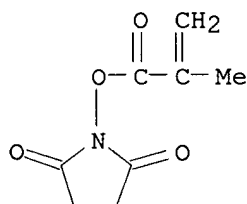
RN 112310-76-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with 1-[(2-methyl-1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

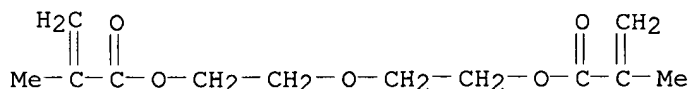
CMF C8 H9 N O4



CM 2

CRN 2358-84-1

CMF C12 H18 O5



L53 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:76159 HCAPLUS

DN 110:76159

TI Radiation-induced polymerization of acrylic and methacrylic esters of N-hydroxysuccinimide

AU Gao, Deyu; Yoshida, Masaru; Asano, Masaharu; Fukuzaki, Hironobu; Kaetsu, Isao

CS Takasaki Radiat. Chem. Res. Establ., Japan At. Energy Res. Inst., Takasaki, 370-12, Japan

SO European Polymer Journal (1988), 24(11), 1037-40

CODEN: EUPJAG; ISSN: 0014-3057

DT Journal

LA English

AB The radiation-induced solid-state polymns. of N-acryloxysuccinimide (I) and N-methacryloxysuccinimide were investigated in both the post-reaction and the in-source reaction, using .gamma.-rays from 60Co source. When I was **polymd.** for 4 h by post-reaction after pre-irradn. up to 10

kGy at -78.degree. in vacuo, the **polymn.** rate increased with increase in **polymn.** temp. and a maximal yield of 100% was reached at 59.degree.. From the relationship between the polymer yield and the specific viscosity, it was presumed that the mutual termination of growing chain **radicals** was difficult in a post-reaction system because of the long-lived polymer chain.

CC 35-4 (Chemistry of Synthetic High Polymers)

IT 37017-08-6P **37047-90-8P**

RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, by solid-state radiochem. polymn.)

IT **37047-90-8P**

RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, by solid-state radiochem. polymn.)

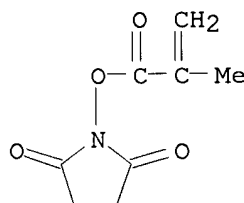
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4



L53 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:89064 HCAPLUS

DN 104:89064

TI Synthesis of poly{1-[(2-methylpropenoyl)oxy]succinimide-co-acrylonitrile}  
and the selective separation of a water-ethanol mixture through its  
membranes

AU Yoshikawa, Masakazu; Adachi, Yo; Yokoi, Hideto; Sanui, Kohei; Ogata, Naoya

CS Fac. Sci. Technol., Sophia Univ., Tokyo, 102, Japan

SO Macromolecules (1986), 19(1), 47-50

CODEN: MAMOBX; ISSN: 0024-9297

DT Journal

LA English

AB The title copolymer [99342-41-3] was synthesized, and the sequence  
distributions of the copolymers were investigated by <sup>13</sup>C NMR spectroscopy.  
A terminal model was used to interpret the propagation process in the  
copolymn. The reactivity ratios in the soln. **polymn.** at  
60.degree. were evaluated: r<sub>1</sub> = 2.40 and r<sub>2</sub> = 0.42. **Radical**  
reactivity indexes and frontier electron densities were calcd. The  
membrane prepd. from this copolymer showed a selective sepn. of water from  
a water-ethanol [64-17-5] mixt. by a pervaporation technique. The sepn.  
factor toward water reached >2000.

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 45

IT **99342-41-3P**

RL: **SPN (Synthetic preparation); PREP (Preparation)**

(prepn. of, as pervaporation membrane for sepn. of water-ethanol mixts.)

IT 99342-41-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as pervaporation membrane for sepn. of water-ethanol mixts.)

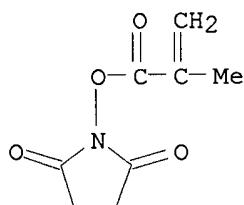
RN 99342-41-3 HCAPLUS

CN 2-Propenenitrile, polymer with 1-[(2-methyl-1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4



CM 2

CRN 107-13-1

CMF C3 H3 N



L53 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1974:478492 HCAPLUS

DN 81:78492

TI Reactive esters of polymerizable carboxylic and carbamic acid

IN Batz, Hans G.; Franzmann, Giselher; Ringsdorf, Helmut

SO Ger. Offen., 19 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2237083	A1	19740214	DE 1972-2237083	19720728
PRAI	DE 1972-2237083		19720728		

AB  $\text{H}_2\text{C}:\text{CHCO}_2\text{R}$ ,  $\text{H}_2\text{C}:\text{CMeCO}_2\text{R}$ , and  $\text{H}_2\text{C}:\text{CHNHCO}_2\text{R}$ , where R is succinimido, benzotriazol-1-yl, and 2,4,5-trichlorophenyl in each case (9 compds.), are prepd. and polymd. The polymers are useful as supports for pharmaceuticals and peptides, i.e., they react to form amide linkages with these compds. Thus, 57.5 g N-hydroxysuccinimide [6066-82-6] and 100 mg dinitrobenzene in 200 ml  $\text{CH}_2\text{Cl}_2$  were treated simultaneously with 31 ml  $\text{CH}_2\text{Cl}_2$  contg. 69 ml  $\text{Et}_3\text{N}$  and 55 ml  $\text{CH}_2\text{Cl}_2$  contg. 45.25 ml methacryloyl chloride [920-46-7] to prep. 70 g N-(methacryloyloxy)succinimide

[38862-25-8] which (3.66 g) was heated at 60.deg. for 4 hr in 40 ml THF contg. 10 mg azobisisobutyronitrile to give 0.5 g poly[N-(methacryloyloxy)succinimide] (I) [37047-90-8]. A soln. of 30 mmoles I in Me2SO was treated with 10 mmoles cycloserine [68-41-7] and then with 40 mmoles ethanolamine [141-43-5] to bond these amines to the polymer chains by amide linkages, displacing succinimidooxy groups.

IC C07D; C07C

CC 35-3 (Synthetic High Polymers)

Section cross-reference(s): 34, 63

IT 814-68-6 920-46-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of, by hydroxyamine compds. and trichlorophenol)

IT 2918-67-4P 18967-28-7P 37017-08-6P 37047-90-8P 38862-24-7P  
38862-25-8P 40908-18-7P 40921-82-2P 40921-83-3P 40921-84-4P  
40921-85-5P 40952-19-0P 40952-20-3P 40952-21-4P 40952-22-5P  
40952-23-6P 40952-25-8P 51293-72-2P 52005-25-1P 52609-73-1P  
52609-74-2P

RL: PREP (Preparation)

(prepn. of)

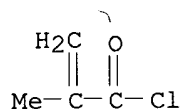
IT 920-46-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(esterification of, by hydroxyamine compds. and trichlorophenol)

RN 920-46-7 HCAPLUS

CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)



IT 37047-90-8P

RL: PREP (Preparation)

(prepn. of)

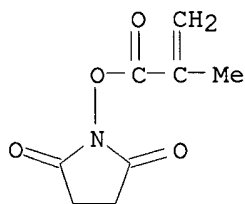
RN 37047-90-8 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4



L53 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1974:121360 HCAPLUS

DN 80:121360

TI Pharmacologically active polymers. 5. Model reactions for the reaction

of drugs and enzymes with monomeric and polymeric reactive esters

AU Batz, Hans G.; Franzmann, Giselher; Ringsdorf, Helmut  
CS Inst. Org. Chem., Univ. Mainz, Mainz, Fed. Rep. Ger.  
SO Makromolekulare Chemie (1973), 172, 27-47  
CODEN: MACEAK; ISSN: 0025-116X

DT Journal  
LA German

AB Acrylates, methacrylates, isopropenylcarbamates, and vinylcarbamates of 1-hydroxybenzotriazole [2592-95-2], N-hydroxysuccinimide [6066-82-6], and 2,4,5-trichlorophenol [95-95-4] were prep'd., and easily polymd. and copolymd. to sol. linear polymers. Both monomers and polymers reacted with nucleophilic compds. selectively at low temps. under mild conditions, indicating that drugs could be bound to the polymers without side reactions. Typically, 2,4,5-trichlorophenyl acrylate (I) [40952-23-6] was prep'd., and was polymd. in 40% yield to poly(2,4,6-trichlorophenyl acrylate) [51293-72-2] and copolymd. with acrylamide [79-06-1]. The reactivity of the esters and their polymers toward nucleophilic compds. decreased in the order benzotriazolyl > succinimido > 2,4,5-trichlorophenyl.

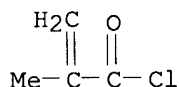
CC 35-3 (Synthetic High Polymers)  
Section cross-reference(s): 63

IT 814-68-6 920-46-7  
RL: **RCT (Reactant); RACT (Reactant or reagent)**  
(esterification of, with hydroxy benzotriazoles, succinimides, and trichlorophenols)

IT 52005-30-8P 52005-31-9P 52005-32-0P 52005-33-1P  
52005-34-2P  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, reactivity ratio in)

IT 920-46-7  
RL: **RCT (Reactant); RACT (Reactant or reagent)**  
(esterification of, with hydroxy benzotriazoles, succinimides, and trichlorophenols)

RN 920-46-7 HCAPLUS  
CN 2-Propenoyl chloride, 2-methyl- (9CI) (CA INDEX NAME)

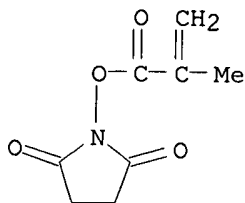


IT 52005-30-8P 52005-34-2P  
RL: **SPN (Synthetic preparation); PREP (Preparation)**  
(prepn. of, reactivity ratio in)

RN 52005-30-8 HCAPLUS  
CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

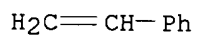
CRN 38862-25-8  
CMF C8 H9 N O4



CM 2

CRN 100-42-5

CMF C8 H8



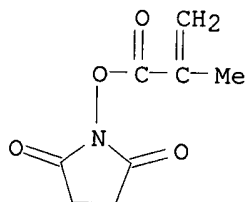
RN 52005-34-2 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with 2-ethenylpyridine (9CI) (CA INDEX NAME)

CM 1

CRN 38862-25-8

CMF C8 H9 N O4



CM 2

CRN 100-69-6

CMF C7 H7 N

